KEEPING UP WITH THE JONESES: RELATIVE ECONOMIC VOTING, ELECTORAL PARTICIPATION, AND REFERENCE POINTS

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled:

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ABSTRACT

This research explores the role relative economy plays in vote choice and turnout. The decision to vote and for whom to vote are heavily predicated on selecting competent policymakers based on their performance handling the economy. To do so, voters must infer the leader's competence based on observations of the economy. I argue that voters can better extract the 'competence signal' by comparing their own economy with the economies of reference countries that share a great deal of familiarity, similarity and connectivity. A relatively strong economy signals incumbent competence whereas a relatively poor one signals their incompetence, and thus, incumbent vote share and voter turnout should be a function of the relative economy. By selecting appropriate reference points from news media in 22 different languages from 33 democracies, this research demonstrates that incumbents tend to be rewarded with increasing vote shares for out-performing growth and are punished for growth that under-performs relative to reference economies. It also reveals that the relatively poor economy makes voters alienated and indifferent from politics, which eventually leads them to abstain from voting. This research has an important implication for democratic electoral accountability; despite frequent instability between the economy and vote choice, this research reaffirms democratic theorists by showing that elections offer citizens periodic chances to change policymakers.

Chapter 1

Introduction

How do voters evaluate the state of the economy when making a choice at the polls? Conventional economic voting literature suggests a simple answer: A good economy helps incumbents in a given election but a bad economy hurts them. How then do voters differentiate a 'good' economy from a 'bad' economy? Are all positive numbers in growth rates (i.e. 0.1%, 2%, 5% etc.) understood as 'good' while negative ones are 'bad'?

Since the data does not speak for itself, it is imperative that we clarify how citizens map these absolute numbers onto a subjective scale of good and poor performance from which they make informed decisions (Olen 2017: 2). To answer this question, scholars of social comparison theory suggest that people are more likely to base their assessments on the comparison between their own absolute performance and reference points (Festinger 1954 cited in Olsen 2017). Put differently, people tend to arrive at a relative measure by subtracting the reference performance from their own economy's absolute performance. Therefore a good measure indicates an over-performance and a poor measure indicates under-achievement.

According to the economic voting literature, social comparison theory affirms the importance of a reference point as a fundamental yardstick for coding absolute economic indicators as either good or bad. Given this, what roles do reference points play when voters assess incumbent economic policy performance? According to Duch and Stevenson (2008), typical voters capture a 'competence signal', which represents the incumbent administration's managerial competence in handling the economy. But voters cannot get the signal from the observed economy directly because the observed economy consists of two parts, competency shock and random exogenous shock. Since voters do not observe the two shock terms separately, they cannot parse out how much of the observed economy is a result of incumbent competence. In this regard, reference points help voters extract the signal by providing a simple heuristic shortcut. For instance, voters can assess the extent to which the domestic economy is subject to exogenous shocks from the global economy when they are attentive to the global economy as a reference point.

Selecting reference points for benchmarking is indispensable for understanding how citizens are affected by performance data (Olsen 2017). In the conventional economic voting literature, voters tend to define a good or poor economy by comparing the current state of economy to the economy of years gone by, which is known as retrospective economic voting. Indeed, for the past three decades, scholars in economic voting have predominantly used this temporal reference point for economic performance comparisons. Given this tradition, there was a general expectation that voters should have uniformly punished their governments during the Great Recession of 2008-2009, as most OECD countries had negative growth rates. However, in only 9 out of 16 elections that took place in OECD countries during this period did executive parties lose vote shares (Kayser and Peress 2012). In other words, a so called 'poor' economy did not lead voters to uniformly punish their incumbents at the polls.

To understand this paradox, recent scholarship has begun to question the dominant use of temporal reference points in comparing performance data. Instead, scholars investigate 'across-borders' yardsticks as an alternative source of comparisons (Kayser and Peress 2012; Hansen et al. 2015; Jerome et al. 2001). Theoretically, the idea is rooted in social comparison theory (Festinger 1954), suggesting that individuals tend to evaluate their own economic conditions by comparing them with the economy of a similar nation. Such comparison is inevitable because the environment (e.g. media) provides information on the economic performance of other countries regardless of whether individuals explicitly search for it or not (Olsen 2017). People simply cannot disregard the economic performance of other countries in the modern age.

Scholars have shown that Danish voters pay particular attention to how their economy evolves relative to the Swedish economy (Hansen et al. 2015) and that German and French voters compare their different economic conditions when arriving at a vote choice (Jerome et al. 2001). For a cross-national verification, Kayser and Peress (2012) present evidence indicating that voters benchmark national economic conditions against the state of the economy abroad. Using individual survey data in the US, Fortunato et al. (2018) also find that voters' perceptions of national economic performance depend on comparative assessment against other states that share economic similarity and states that are identified by media.

Despite this, fundamental questions on relative economic voting remain unanswered: How important are relative performance evaluations? How do we find the appropriate reference points for comparisons? And what types of reference points (across-time or across-borders) do citizens actually draw on for performance comparisons? Do voters use one type of reference point more than the other? Do the relative economic performances affect any other political phenomena such as political participation? These are the guiding questions that form the basic structure of this research.

First, given that comparison tends to be guided by reference points, finding appropriate reference points, especially spatial ones, is crucial to ensuring empirical accuracy. However, identifying a proper spatial yardstick is a daunting task for a large N analysis. Indeed, in part due to this difficulty, scholars have applied a common reference point such as the median or average economic indicator as international yardsticks (Powell and Whitten 1993; Kayser and Peress 2012). However, as Kayser and Peress (2012) indicate, the application of the universal reference point requires a strong assumption that all countries tend to be equally affected by common reference points[1].

In a cross-national analysis, the assumption of equal reference points across all countries and elections is unrealistic, and as a result, an empirical analysis relying on common reference points will yield a biased estimation. Instead, each country and each election is likely to have its own unique reference points according to political, cultural, geographical, and historical background as well as economical/trade relationships. In an effort to uncover unique reference points for each country and

[1]To deal with this limitation, Kayser and Peress (2012) also suggest two alternative ways in constructing spatial reference points: Principal Components and Trade Weighting. See Kayser and Peress (2012: pp. 665-66)

election, I argue that media coverage can provide useful information. If the media is a reflection of public awareness, then countries that have a great deal of public attention are likely to appear in domestic media platforms. If the media raises public awareness by disseminating information about other countries, these messages may tend to remain in voters' minds as yardsticks for comparison. Frequently appearing country names in one's own domestic news media are possibly the best appropriate spatial reference points. Using media coverage, the first goal of this project is to find theoretically relevant and methodologically feasible spatial reference points across elections and countries.

The second part of this research attempts to answer the following questions: Do voters always use an across-border yardstick? If not, when and under what conditions do voters tend to use across-borders reference points instead of across-time ones? To answer these questions, I argue that cross-border benchmarking is not constant but varies according in two important contexts: globalization/trade linkage and national economic conditions. First of all, in the pre-globalization era, the effect of across-borders comparison would be weak because ordinary citizens are less informed about other countries and they are less affected by other countries' economic performance. However, as countries becomes more interconnected by globalization, one's own economic conditions may create an immediate effect on everyday life in other countries. In addition, the sheer volume of goods and services enriches available information and makes cross-country comparisons more accessible.

I also argue that citizens tend to be more sensitive to cross-national comparisons when their national economic performance is weak, whereas under a strong national economy they will care less about how other countries are performing. According to prospect theory, people are loss-averse, so a worsening national economy may increase voters' tendency to obtain further information, such as causes of poor economy and the magnitude of loss to evaluate the state of their own national economy. Furthermore, the media will allocate its coverage, asymmetrically focusing on a negative economy (Soroka 2006) and compare it with other countries (Kayser Peress 2012). In other words, a poor economy will make across-border comparisons more salient.

Finally, this research aims to explore how comparative economic performance affects political participation. The effects of the economy have been heavily studied as determinants of vote choice but much less so in terms of turnout. In recent studies, the two main theories of "mobilization," which suggests that economic hardships encourage people to be more active (Scholzman and Verba 1979), and "withdrawal," which posits that a deteriorating economy causes voters to abstain (Rosenstone 1982), are viewed as complementary. Radcliff (1992) was the first to make the argument that turnout increases when the economy is doing either very poorly or very well and decreases in the middle because in these latter cases other issues gain more salience during election time.

More elaborate analyses find that economic downturns differently affect the turnout rate of each social group: lower income voters mobilize when they feel themselves sliding toward the danger zone, but turnout reduces as you observe individuals higher up the social ladder. When economic danger decreases, there seems to be less upside to voting (Weschle 2014; Carreras and Castaneda 2016). On the other hand, when the economy is good, turnout is higher, as the voters want to express their satisfaction and encourage similar policies in the future (Martins and Veiga 2012). However, most cross-national research finds null effects when observing the influence of economic fluctuations on voter turnout. This suggests that there is “no clear relationship" between the economy and turnout (Blais 2006).

However, scholars in this field, similar to vote choice models, have only included measures of absolute economic performance rather than relative ones. Although absolute economic performance data is useful, it has great limitations for explaining how voters form opinions about incumbent performance—because no rate of economic information is innately high or low. To form an assessment, I argue, voters rely on relative performance information by comparing the national economy with that of another country. The benchmarked economy facilitates the process of evaluation, and once the evaluations are made, voters decide whether to turnout or not.

This research makes several contributions. First, using domestic media coverage, this research suggests appropriate spatial reference points across elections and countries. Regarding small N studies, scholars try to employ relevant countries for spatial reference points assuming that they are the one against which voters will benchmark. However, the choice of spatial reference points is rather underspecified and mostly based on common intuitions such as that the Swedish will benchmark the Danish economy and vice versa. The task of selecting spatial reference points within cross-national time-series data is more sophisticated. Unless substantial information guides the choice of spatial reference points, *ad hoc* decisions are likely to be made. Applying universal spatial reference points such as the average global economic performance could be one solution, but this imposes unrealistic assumptions. This research suggests a systematic way of finding these spatial reference points. Not only does the media *prime* public opinion but it also *reflects* their interests. Media coverage will provide useful information in identifying possibly the most relevant spatial reference points, particularly for cross-national time-series analysis.

With the help of appropriate reference points, this research also contributes to the economic voting literature. More specifically, sanctioning models of economic voting require that voters acquire retrospective information about the health of the macro-economy and posit that they punish or reward governments. However, comparative economic voting studies have found great instability in this model across countries and over time. Regarding one source of this instability, Duch and Stevenson (2008) pointed out Hibbs' (2006) demonstration on potential errors in the conception of economic evaluations. According to Hibbs (2006), higher levels of error in the measure of economic evaluations tends to cause a downward bias on its coefficient in a vote function. If the economic variables contain considerable limitations in inducing accurate economic evaluations, it will cause a low correlation between economic evaluations and vote choice (Duch and Stevenson 2008). The use of proper macro-economic variables, which are the correctly spatially benchmarked economy, and thus capture voters' assessments of economic performance, will reduce the noise in the error term.

Since voters observe and form opinions about economic conditions in allocating their party support (Stevenson and Duch 2013), it is imperative to reveal how voters form their attitudes about macro-economic performance. Fortunato et al. (2018: 469) pointed out Zaller's (1992) theories of attitude formation and argue that "individuals acquire economic information from a wide variety of sources at varies level (local, state, national etc.) and this economic information forms a distribution of possible states of the economy; when the respondent is asked to evaluated the economy, she performs a simple draw from that distribution." The third contribution of this research is that it considers a different way of forming evaluations by adding relative performance data into vote choice models. Among many sources such as personal experience, elite message and media reports, relative performance data provide a heuristic shortcut for voters to form opinion about the general state of the economy. Moreover, as citizens' performance evaluation is fundamentally a relative process (Olsen 2017), this research shows a better approximation of the distribution of possible states of the economy.

This research consists of seven chapters. In chapter 2, I provide a detailed theoretical discussion of how relative economy affects vote choice, what factors conditions the effect of relative economy on vote choice, and how voters' decisions to turnout or not are influenced by relative economic performance. Chapter 3 presents a theoretical foundation for spatial reference points and shows how media are useful in finding a theory-driven spatial reference point. After that, it offers detailed information on data collection, using domestic media sources, economic keywords in 22 different languages, and the list of spatial reference points per election and country.

Chapters 4-6 provide empirical demonstrations based on the proposed theories in chapter 2. Chapter 4 examines whether the relative economy has an effect on incumbent vote share. Following traditional research, this chapter also shows the effect of national economic performance (non-benchmarked) on incumbent vote share and demonstrates which measure of the economy variable voters tend to respond to with greater sensitivity. It also includes a discussion of whether the effect of relative economy is conditioned on institutional contexts, such as clarity of responsibility, and if so, how the conditioning effect is different from models using national economy. The results indicate that voters do reward/punish incumbents according to fluctuations in the relative economy. The coefficient of relative economic variables appears to be stronger, consistent, and robust across various models whereas that of national economic variables shows instability in terms of its magnitude and statistical power across different models. This chapter also finds that clarity of responsibility mediates the link between the economy and vote choice. More important, the relative economy appears to be less conditioned by this institutional context than by the national economy.

Chapter 5 suggests that two economic contexts, globalization and national economic performance, serve as mediating variables between the relative economy and incumbent electoral support. The results indicate that economic globalization makes the effect of relative economy on incumbent vote share more pronounced as it brings great sources of comparison to voters' minds in the form of direct engagement. When national economic growth is included, it shows that economic globalization weakens the link between the economy and vote choice, consistent with conventional wisdom. While this finding requires further scrutiny, one immediate implication is that if globalization-induced weak policy autonomy becomes constant, then politicians cannot use limited policy space as a scapegoat for poor performance because voters will consider that there are countries performing better economically. Chapter 5 also confirms that voters tend to rely on spatial reference points when the temporal reference point raises a red flag due to poor national economic performance. They have weak motivation to look to other countries if their macro economy appears healthy. A bad domestic economy increases issue salience in the economy, eventually leading voters (or the media) to consider spatial comparisons. Contrary to previous literature, this finding suggests something important: voters may use both temporal and spatial reference points to make comparative assessments, but they do so in a sequential way—by looking to retrospectively at their own economy first and then by looking to the relative economy.

Chapter 6 examines the effect of relative economy on voter turnout. In doing so, I employ two competing hypotheses, 'mobilization' and 'withdrawal.' The basic motivation of this chapter is rooted in the empirical ambiguity about the effect of the economy on turnout, which leads a scholarly conclusion that there is "no relationship" between the economy and turnout (Blais 2006.) I argue that one source of this null finding is that scholars have employed national economic variables only, and have left out the power of relative economy in citizens' minds when making performance evaluations. Even though making comparisons is an ordinary human behavior, previous studies have not considered this obvious behavioral pattern in turnout models. The results indicate that voters do base their judgments on incumbent economic policy performance by comparing their own national economy with others' and decide whether to turnout or not accordingly. Regarding two preeminent theories, Chapter 6 shows that relatively worsening economic growth makes voters abstain from voting because they lose confidence in the managerial ability of their government, supporting the 'withdrawal' expectation. Indeed, the the source of instability in the previous literature in part comes from the use of inappropriate economic variables. Finally, chapter 7 provides a brief summary of this research, including some implications of the empirical findings.

Chapter 2

Theories of Relative Economy on Vote Choice and Voter Turnout

2.1 Relative Economy and Vote Choice

According to Duch and Stevenson (2010), voters tend to cast ballots based on their confidence in an incumbent's ability to handle the economy. The authors note that "rational voters are motivated by the desire to select the most competent candidates: voters use information about economic outcomes to assess the future competencies of competing candidates"(Duch and Stevenson 2010: 106). Regarding the ability of voters to select the most competent candidates, Duch and Stevenson (2008) highlight the 'competence signal' that captures the extent to which shocks to the economy are a result of the competence of governments. More specifically, they explain that an economic shock consists of two parts:

$$\text{Random shock to the Economy} = \epsilon_{it} + \lambda_t$$

Duch and Stevenson (2008: 133) refer to the first component, ϵ_{it}, as 'competency shock' and note that it is meant to capture the economic impact of the incumbent administration's managerial competence, which varies over time or administration. Put simply, this is the economic shock that originates from incumbent managerial skill in handling the economy. By evaluating these shocks, voters should know to select the most competent candidate.

The other component, λ_t, represents 'exogenous shock', which has nothing to do with incumbent managerial skill. Because economic shocks consist of two unobserved factors, voters cannot distinguish the 'competence shocks' from the 'exogenous shocks' directly—but thy can glean useful information about each of them from observing the economy which the random shock is partially dependent on (Duch and Stevenson 2008: 133).

Because voters want to hold incumbents accountable for policy outcomes (based on the incumbent's competence), voters must base their decisions on 'competence shocks' rather than 'exogenous shocks.' In other words, voters do not want to assess an economy driven purely by exogenous shocks that have nothing to do with incumbent competency. To avoid this misjudgment, voters should be able to extract the 'competence signal' by parsing out how much of the random shock is a result of incumbent competence. Signal-extraction, however, is a daunting task because voters cannot observe the two shock terms separately.

Similarly, if voters reward or punish their incumbents based on economic conditions in a given election, then evaluating the economy is imperative before casting a ballot. Defining what constitutes a good or bad economy, however, can be extremely difficult. Although voters are faced with a substantial amount of economic performance indicators (such as the GDP, GNP, unemployment, inflation rate, etc.), it is cognitively demanding to compile that information. Additionally, the data does not often speak for itself. No economic indicator is innately strong or weak; what passes for strong growth in one period or place might be regarded weak in another time and location.

Furthermore, there are numerous political and international factors that may reduce voters' ability to evaluate the economy. For instance, incumbents in an open economy can shift the blame for the poor economic performance to international influences (Duch and Sevenson 2008; Hellwig 2001; Hellwig and Samuels 2007). Incumbents in a coalition government place blame for the policy failure on its coalition partners (Powell and Whitten 1993; Lewis-Beck 1986). Indeed, these political and international contexts also make signal-extraction difficult.

I argue here that one important way for voters to extract competence signals and overcome cognitive difficulties is to look across borders for a benchmark for comparison (Hansen et al. 2015; Kayser and Peress 2012). The relative economy can play a useful role in helping voters extract the competence signal from the observed economy. Relative economy functions as a heuristic shortcut in voters' minds to help distinguish strong from weak economic performance.

Suppose that voters in country A observe a sharp decline in economic growth rate. Without a cross-national comparison, voters in country A cannot tell to what extent the poor performance is a sign of managerial incompetence. It is possible that the poor economy is a reaction to global economic shocks or that their incumbent's economic policy was not able to be implemented properly due to other political constraints, such as being a minority government (Powell and Whitten 1993).

When voters compare a decline in growth rate with other countries (e.g., neighboring countries or the average global economy), they can assess the way elected officials handle the economy regardless of political and international constraints. If the decline aligns with global GDP or the economies of neighboring countries, voters will not emphasize competence shocks. If, however, they see their own economy deviating from the global standard, they are more likely to question incumbent economic competency. National economic outcomes seem to find it difficult to evade the economic outcomes of other countries, so "it is increasingly relevant to compare all types of performance across national borders" (Hansen et al. 2015: 771).

The election outcomes during the global financial crisis of 2008-2009 better illustrate how relative economy affects vote choice. During the eighteen month period from July 2008 to the end of 2009, when economic conditions were dismal, 16 countries in OECD held elections. During the great recession, every country experienced at least two quarters of negative growth, and 13 of 16 countries faced a negative growth rate in the quarter of or before the election (Kayser and Peress 2012).

According to orthodox assumptions of economic voting theory, we would expected voters to uniformly punish their governments. Puzzlingly, despite such poor economic performance in the preceding election, the government lost vote shares in only 9 of 16 countries (Kayser and Peress 2012). More to the point, even though the 0.8% annual growth in Poland would be considered poor performance, it was relative strong compared to their neighboring countries, who experienced a negative growth rate during global recession (such Germany with -6.9%, France -3.2%, Slovakia -5.4%, Hungary -4.7%, and Estonia -10.9%). Indeed, their relatively strong performance led to the Polish government being re-elected (Kotnarowski and Markowski 2014).

It would be difficult for Polish voters to extract competence signals from their incumbents by looking at Poland's 0.8% growth rate alone. Their relatively strong performance compared to their neighbors clearly signaled that the Polish government did a successful job in handling their economy and thus deserved an electoral reward rather than punishment. As such, the relative economy provides voters with the information necessary for undertaking signal-extraction.

The idea of comparative economic voting appeared in Powell and Whitten (1993) where the authors calculate relative macroeconomic measures. For comparison, Powell and Whitten use international average levels of economic indicators (growth, inflation and unemployment). From 19 western democracies between 1969 and 1988, they find that relative economic growth is statistically significant. If a countries' GDP growth is higher than the international average, incumbents tend to receive more votes. Moreover, the effects of comparative unemployment rates and inflation operate in ways consistent with the priorities of parties on both left and right. For instance, they find that left and center governments tend to be punished by relatively high unemployment compared to the international average, while governments on the right tend to be penalized for inflation above the international average.

More recently, Kayser and Peress (2012) have shown—using aggregate as well as individual level data—evidence of voters benchmarking national economic conditions against the state of the economy abroad. Making use of objective economic indicators and decomposing the economic variation into a local and an international component, they show that only the local component explains the vote significantly, suggesting benchmarking. Again, the Polish 2009 election is exemplary in this regard, as it is assumed that the assessment of Poland performing economically better than most other EU countries led to the incumbent government being re-elected, although its GDP growth rate was as low as about 0.8%.

Regarding reference points, Kayser and Peress decomposed economic variations into local and global components in three ways and subtracted global economic performance—growth and unemployment—from the respective measure of national economic performance. First, similar to Powell and Whitten's (1993) measure, they structure the sample median (i.e. OECD's median growth and unemployment) for the year that each given election took place.

The second way of constructing reference points—named as Principal Component—takes into account a country's integration into the international and regional economies; by doing so, they are able to capture international and regional economic covariation with other economies. Finally, they use countries that are larger and more proximate as the third reference points assuming that voters would care more about large neighboring states than small distant ones (Kayser and Peress 2012).

Using small N cases, other scholars have examined benchmarking with a specific reference point per case. For instance, Hansen et al. (2015) have examined benchmarking using individual-level data. Studying benchmarking in the Danish context, they expected neighboring Sweden to be the most relevant country of reference, as media actors regularly contrast Danish and Swedish policies. They show the results of a choice experiment and find that when prospectively evaluating the economy, Danish voters do care strongly about how the Danish economy evolves relative to Sweden.

Using Germany and France, Jerome et al. (2001) also test how relative economic performance affects citizen vote choice. They show that when French economic growth outperforms German growth, the ruling coalitions in the French National Assembly expect to obtain more votes (i.e. each percentage point increase in GDP will increase a vote share by about 4% points). On the other hand, incumbents gain more votes in Bundestag elections when German growth rates are greater than those of the French. Vote choice based on comparative assessment appears to be stronger among French voters, implying that the French voters are more concerned with the German economy than vice verse. In forecasting the German Bundestag election in 2013, Kayser and Leininger (2015) use the relative economic performance of Germany in comparison to the three other most important economies in Europe such as France, the UK and Italy. Specifically, they use the deviation of German growth rates from the reference points- the average of British, French and Italian growth.

Similar to benchmarking hypothesis, Fortunato et al. (2018) argue that citizens construct economic evaluations using economic information from other localities. Since voters in a particular area (state) tend to have different mixtures of economic information from other local areas (states) based on shared economic, political, and geographic similarities, Forgunato et al. rely on a spatial model to use local (states) that are the most relevant to the voters of that locality.

Using individual-level survey data from the Cooperative Congressional Election Study (2006, 2008-2012), they find that a voter's perception of national economic performance depends on comparative assessments against other states that share economic similarity and are identified by media. In sum then, this discussion leads us to conclude that *voters evaluate national outcomes relative to those obtained by other countries.* This, my main prediction, highlights the importance of cross-national comparisons for vote choice.

2.2 Conditional Contexts of Relative Economy on Vote Choice

Much of the scholarships on the economic vote has used measures of the level of, or changes in, domestic macroeconomic indicators (Stegmaier and Lewis-Beck 2013; Stegmaier et al. 2017). Recent studies, however, have considered that perhaps voters engage in comparisons, much like we do in our daily lives. Several studies (e.g., Kayser and Peress 2012; Hansen et al. 2015; Olsen 2017), have shown that citizens cast the economic votes by considering how their own country's economy is performing relative to that of their neighbors who are familiar, connected, and similar (so-called spatial reference points). Do voters always rely on a cross-national yardstick in this fashion? If not, when and under what conditions do voters tend to benchmark more? I argue that the effect of cross-border benchmarking is not fixed but rather varies according to globalization and one's own domestic economic conditions.

2.2.1 Relative Economy in Open Economies

Globalization, contrary to conventional wisdom, can strengthen the linkage between the economy (across-border benchmarked measure) and the vote and, as a result, facilitate electoral accountability by enriching available information to public. In the pre-globalization era, it was not easy for ordinary citizens to assess domestic economic conditions in a global or comparative setting in part because they were less exposed to information on the economic performance of other countries. Although making a comparison is natural human behavior, much like we do in everyday life, ignorance about the objects to be compared against makes an engagement in comparing activities difficult.

Globalization has brought structural changes in many aspects, especially in eliminating concerns of the lack of information. Globalization tends to be conceived as "a multidimensional, rather than a singular, process - evident across the cultural, political, ecological, military, and social domains - in that is associated with patterns of trans-world integration" (Mcgrew 2008: 280). In particular, economic globalization, marked with increased flows of goods, services, capital, and labor, makes countries interconnected and interdependent of each other. When these factors of production cross borders, news, ideas, and information attached to them make the crossing as well. That said, globalization is not a simple interconnection among factors, but rather induces active engagement among factors and thus increases information on the countries where they originated.

For instance, Danish people during the pre-globalization period would pay less attention to the Swedish economy. Yet, as the two economies became highly integrated, citizens in Denmark began to pay more attention to Swedish firms such as IKEA (and its economy in general) because changes in the Swedish economy may affect the everyday lives of the Danish people, especially perhaps for those who are employed by Swedish firms and who have stocks or shares in them. At the same time, the media in Denmark tends to deliver more news on Sweden, including her economic conditions. All of these engagements with Sweden would lead Danish voters to come up with Sweden as a yardstick for comparisons when they evaluate their national economic performance.

That being said, in the pre-globalization period, the effect of benchmarking across-borders is expected to be weaker because ordinary citizens are less informed about other countries' situation, and less affected by other countries. This makes voters in a country less likely to benchmark their own economy against other countries. However, globalization, particularly economic integration, brings great sources for comparison in people's mind in the form of direct engagements and media coverage. Eventually, this will render voters to evaluate their national economy relative to other countries' economic performance.

Scholars have considered that globalization reduces national policy autonomy, and thus gives politicians an excuse to avoid blame for economic policy failures. In other words, globalization will weaken the effect of the economy on voting behavior (Hellwig and Samuel 2007). I argue that if this holds in one country, it should be also true for other countries which are, at least, at a similar level of globalization. Basically, globalization creates a common ground of 'limited policy space' for all of its participants.

If all of my neighboring countries have faced reduced policy autonomy due to globalization, can my politicians still rely on the same excuse for a relatively poor performance? If globalization-induced constraints are in place everywhere, citizens will not consider the common factor as an excuse for cross-borders deviations, so blame shifting will not work. Indeed, Hayes et al. (1995) find that voters in an established democracy with free media and high education are better able to discern the sources of economic changes, either domestic politics or international factors. In particular, for these types of voters, politicians may not be able to shift blame for under-performance to globalization. Following this discussion, I expect that *as coun-*

tries' economic globalization increases, the effect of relative economy on incumbents' vote share will increase.

2.2.2 Relative Economy vs National Economy

The effect of cross-border benchmarking is also conditioned by a country's retrospective economic conditions. In other words, people tend to use cross-borders yardsticks if current performance is below past performance. Before I illustrate how these reference points play an interactive role in helping voters evaluate incumbent performance, I explain the two types of reference, and show how previous studies have viewed them as competing criteria for relative performance.

Temporal and Spatial Reference Points

In traditional economic voting literature, scholars have predominantly used temporal reference points, which compare the economy 'across-time'. By using temporal reference points, scholars assume that citizens perceive and are concerned with directions of change in their economy. Simply put, the current economy is evaluated against that of the past. If the difference between current and past performance is negative or close to zero, it will be seen as worsening or a weak performance. Indeed, in economic voting, temporal reference points are clearly the most broadly used for performance comparisons (Kayser and Peress 2012).

As an alternative source of comparisons, recent scholarship has begun to focus on 'across-borders' yardsticks. Festinger (1954) established the theoretical foundations of social comparison theory from which the idea of 'across-borders' comparison originated. According to this theory, citizens compare their own current performance with the current performance of others. The surrounding environment, regardless of whether citizens explicitly look for it or not, will inevitably provide information on others' performance; people have an urge to assess their own performance by juxtaposing that of others. Thus, they cannot disregard the outcomes of others (Olsen 2017).

Some scholars perceive that people tend to use spatial comparison if a time-based comparison is not feasible (James and John 2007; Hibbs et al. 1982). That being said, spatial reference points are the second best source of comparison in the absence of time-based information. However, as shown in recent studies, citizens obtain useful information for comparative assessments regardless of the availability of temporal reference-based information. Olsen (2017) conducted an experiment to figure out to which reference points (historical vs. social) the respondents react more seriously. He found that social comparison is almost twice as important to respondents' evaluations as historical comparison.

Olsen's findings are consistent with Hansen et al.'s (2015) empirical outcomes. They find that citizens are likely to use spatial reference points as a means for comparison even when temporal reference-based information was given to them. Kayser and Peress (2012) also find that the coefficients of spatially benchmarked economy is consistent, stable, and stronger than those of temporally benchmarked economy, suggesting that voters heavily rely on spatial reference points rather than temporal ones. Moreover, Salmon (1987) argued that temporal comparison is likely to be biased by temporal reference because exogenous disturbances such as business cycles, shocks, and long-run trends weaken the stability of temporal comparisons.

The way existing studies have dealt with these two reference points, however, is limited. Especially, First, as mentioned above, scholars in economic voting have predominantly employed the temporal-based economic measures into vote choice models. This approach has ignored an important way for voters to form their evaluation on the economy: spatial comparisons. Secondly, although recent scholarships began to use both reference points, but they have focused on that voters use either spatial reference points or temporal reference points to arrive at a relative assessment.

However, this approach also ignores how these two reference points are interacting each other in voters' mind. For instance, are these two reference points playing a competing role, so if one type of reference point is dominant in voters' minds, should we expect to see a null, if not weak, role of the other type of reference point? Indeed, some studies unwittingly focus on picking the winner between the two reference points (Olsen 2017). However, there are no theoretical reasons to place them in a race to see who gets to the finishing line first. Instead, as I argue in the following section, they are playing an interactive role in voters' minds and there is a certain condition which leads voters to use one or the other. In other words, voters use information obtained based on both reference points, but they have reason to use one point more and the other one less.

The Interactive Relationship between Spatial and Temporal Reference Points

I argue that citizens are more sensitive to cross-border comparisons when their national performance is poor, but they tend to ignore comparative performance with other countries' when their national performance is in good shape. For a simple illustration, consider that country A has a 5% GDP growth rate increase this year, and suppose that this absolute number (5%) growth rate is a remarkable achievement in country A's growth trajectory. Under this rosy condition, citizens in country A would have zero or few reasons to look around its neighboring or rival countries (spatial reference points) because they are content with their economy. In contrast, when country A faces a gloomy economy compared to the previous year, citizens in country A would look to similar nations to see how their economy is faring compared to others. A worsening national economy requires a further scrutiny, whereas an improving national economy does not.

Why then do national economic conditions affect citizens' attitudes toward cross-national comparison? I argue that citizens select reference points in sequential order: they first benchmark their own economy in the past, and then the economies of their peers. Given that the goal of comparison is to provide a heuristic and cognitive shortcut for evaluating performance, people will take comparison methods that are easily available and accessible. In this sense, the temporal reference point does this job better than the spatial one. Indeed, comparisons between my current self and myself in the past are quick and easy. People simply need to recall their recent history.

In economic voting, it is very casual for voters to recall their previous economic conditions from their own personal memories or those of their family, colleagues, or peers. Furthermore, the media almost always provides information on local (state) economy compared with past performance. That being said, the surrounding environment offers a full range of information and channels of information for voters—this accessibility permits them to obtain the necessary information without effort and helps them arrive at temporal comparisons before spatial ones. Perhaps this is why the temporal reference points are the most widely used for performance comparison in economic voting.

By contrast, to use spatial comparisons, the information of spatial reference points must be available. As discussed in the previous section, globalization does this job by delivering more information on other countries to voters. However, availability is a necessary, but not sufficient, condition for spatial comparisons. Even if voters get to know about other countries' economies, that does not necessarily lead them to take into account spatial comparisons. Voters tend to take an extra step by using spatial reference points when the initial temporal-based heuristic short cut signals the worsening national economy.

Why then do citizens react to a worsening national economy differently? Based on the prospect theory, I argue that voters asymmetrically asses losses and gains, so they tend to put more weight on avoiding losses than obtaining gains. Put simply, the worsening economy during the first stage of comparison raises a red flag, indicating potential, incipient, or imminent economic problems. There are ample empirical demonstrations of this negativity bias in the economic vote. For instance, in earlier studies of US elections, Muller (1973) found that only the increase in unemployment affects US presidential popularity, and Bloom and Price (1975) found that economic recessions reduce seats for the president's party, but economic boom does not increase them in the US. In the UK, Kappe (2013) finds a similar pattern in government popularity. In fact, all of the findings on negativity bias rely on temporal changes in one's own economy.

Moreover, the economy becomes extremely salient during times of poor performance (Singer 2011; Singer 2013; Erbring et al. 1980) This increased issue salience commands greater media coverage, all of which increase the accessibility of negative economic opinions in the minds of voters. Scholars demonstrate the existence of negativity bias in media (Soroka 2006, Hetherington 1996; Kayser and Peress 2012), suggesting that the media tends to assign more coverage on poor national economic performance than good. In its coverage during bad times, media also portray the poor performance in a comparative context by placing their own economy as compared to other countries'. For instance, Kayser and Peress (2012) find evidence that media coverage on the economy is pre-benchmarked, indicating that a comparative assessment of how the national economy is doing is depicted in the media. In other words, the temporally benchmarked economic news is portrayed in spatially benchmarked context. Therefore, being exposed to such media environment, voters come to use cross-border benchmark more actively.

In sum, people who are loss-averse become more sensitive when they experience poor performance compared to previous conditions. This increased sensitivity may trigger motivation for the across-entities comparisons. Those who experience worsening economic conditions may have a strong tendency to obtain further information such as the cause of the poor performance and the magnitude of losses. Media offer broad coverage on poor performance and in doing so, they tend to highlight the bad performance by comparing their economy with another country's economy. This process enables voters to obtain information about their neighbors (spatial reference points), and eventually leads them to engage in cross-border comparisons actively. With this discussion, I expect that *the effect of cross-border benchmarking on incumbents' vote shares increases when the retrospective national economic condition is poor.*

2.3 Relative Economy and Voter Turnout

2.3.1 Effects of the Economy on Voter Turnout

The effects of the economy have been heavily studied as determinants of vote choice but much less so in terms of turnout. In recent studies, the two main theories, "mobilization", which suggests that economic hardships encourage people to be more active (Scholzman and Verba 1979), and "withdrawal", which posits that a deteriorating economy causes voters to abstain (Rosenstone 1982), are viewed as complementary.

The 'withdrawal' hypothesis expects that economic difficulty is stressful, and thus voters who are preoccupied with their financial problems have limited time and resources to ponder politics. Rosentone (1982) argues that "when a person experiences economic adversity, his scarce resources are spent on holding body and soul together 'surviving' rather than on remote concerns like politics" (26). Similarly, increases in economic hardships actually reduce the level of surplus resources available to people, which eventually lead them to spend limited sources on basic human needs rather than on political participation (Southwell 1988; Kinder and Kiewiet 1981).

Numerous studies have shown how an abundance of resources leads to higher levels of political participation. For instance, scholars found that individuals from higher socioeconomic backgrounds with more resources tend to partake in politics at a higher rate than those with fewer resources (Bradly et al. 1995; Smets and van Ham 2013; Verba and Nie 1972). Although such evidence is predominantly based on US elections, an early comparative study by Lipset (1960) also demonstrated a similar pattern between socio-economic status and voter turnout in a number of democracies.

Another line of reasonings for the 'withdrawal' hypothesis argues that economic hardships makes citizens indifferent and alienates them from politics. More specifically, a negative economy informs the public that the government is not capable of addressing such problems, which leads to a decrease in democratic satisfaction and a loss of confidence in representative institutions (Mishler and Rose 2001; Van Erkel and Van der Meer 2016). Taylor (2000) also describes these alienated citizens as 'frustrated' voters.

Poor economic management increases indifference among voters in two ways (Weschle 2014). First, if voters are government supporters, economic hardships will not necessarily lead them to support the opposition because it may be too far away programmatically. They will also be reluctant to vote for the incumbent because poor economic management signals a lack of competence. They are therefore more likely to be indifferent, leading them to stay at home on election day (Tillman 2008). Consequently, as people become disillusioned with political institutions, democratic performance, and vote choice, they tend to turnout less in an election (Cox 2003; Gronlund and Setala 2007).

The 'mobilization' hypothesis suggests the opposite expectation in that citizens under economic hardships are more prone to vote. In this view, citizens are encouraged to be more active politically because they blame the government for their economic strain and are thus willing to seek redress for their grievances (Schlomzman and Verba 1979). One immediate way to express their grievances is to punish the incumbent government for its economic mismanagement by giving their political support to other parties at the polls.

The mobilization theory is further studied based on research that shows a negativity bias in political behavior (Lau 1982; Soroka 2006; Kahneman and Tversky 1979).

In particular, Lau (1982) notes that there is a tendency for "negative information to have more weight than equally extreme or equally likely positive information." (353) Much scholarship has empirically shown that there is a clear negativity bias in media as it gives much more coverage to negative economic news than positive (Soroka 2006; Hetherington 1996). Being exposed to this one-sided media, citizens appear to react asymmetrically to the economy itself. Said differently, citizens are more aware of economic fluctuations during bad times, and thus are more likely to engage in the political activities to seek remedies for poor economic performance and express their frustration (Kern et al. 2015).

A number of studies have examined the link between the state of the economy and electoral participation. By analyzing US elections from 1896-1980, Rosenstone (1982) concludes that economic hardships reduce turnout. Radcliff (1992) finds that turnout increases when the economy is doing either very poorly or very well and decreases in the middle because in these latter cases non-economic issues gain more saliency during electoral campaigns. More to the point, he also finds that there is 'withdrawal' effect in industrialized countries, but the 'mobilization' effect gains more support from developing countries (Radclif 1992; Pacek and Radcliff 1995). A similar conclusion is reached by Pacek et al. (2009) using post-Communist countries.

Most of these cross-national studies find no effects of economic fluctuations on voter turnout, across regional samples such as the US (Arcelus and Meltzer 1975), Latin America (Fornos et al. 2004), post-Communist countries (Fauvelle-Aymar and Stegmaier 2008; Kostadinova 2003), and a global sample found in Blais and Dobrzynska (1998) and Blais (2000). In fact, both conflicting and null findings lead Blais (2006), in his comprehensive review of the turnout literature, to conclude that "there is no clear relationship between the economic conjuncture and turnout" (Blais 2006: 117).

In the next section, I raise the question of whether previous studies have included proper economic variables into their turnout models. More specifically, I posit that voters' judgments of good or bad economy are not simply based on retrospective evaluations of their own economy. Instead, they look to other countries' performance to understand the relative conditions of their economy. I illustrate why relative economy is useful and how voters could take the information of relative performance into consideration when deciding whether to turnout.

2.3.2 How does the Relative Economy affect Voter Turnout?

Similar to the Vote-Popularity function, the underlying assumption of the link between economy and turnout, either through mobilization or withdrawal, is based on voters' assessments of incumbent competence in handling the economy. If voters want to express their grievance for poor economy, and accordingly want to hold their government accountable at the poll, they must be able to extract the competence signal, which captures the extent to which shocks to the economy are a result of the competence of government. The same logic applies to the withdrawal hypothesis. If voters become alienated and indifferent from politics due to losing confidence in their government, and therefore become reluctant to participate in elections, they also have to tell to what extent economic hardships are exacerbated by incumbent managerial skill. In other words, voters' decisions whether to vote or not are based on competence signals from incumbents (Duch and Stevenson 2008).

However, as we have seen, voters may not able to extract the competence signal by looking the observed economy. This is because the observed economy consists of two parts, competency shock and exogenous shock, and voters cannot extract one term in isolation. If adverse economic conditions are not driven by incumbent competency but by exogenous shock, such as global financial crisis or oil shock, there is little reason to conclude that poor economy reflects poor incumbent competency. As such, extracting competence signals from the observed economy is an important task for voters, should they want to avoid inappropriate assessments of their elected officials. Put simply, the first step that a voter should take is to evaluate whether their economic adversity originates from exogenous shock or incumbent competency shock.

Reference points can play a useful role in assisting voters in extracting competence signals from the composite term of observed economy that provides relative performance information. They function as a heuristic shortcut in a voter's mind. As discussed earlier, temporal and spatial reference are the most common ground for comparison. However, similar to most studies in vote-popularity function, scholars have predominantly used the temporal reference point in their turnout models. Specifically, scholars only included economic indicators by comparing the current values with the past values to examine the effect of the economy on voter turnout. By relying on this temporal reference point, scholars unwittingly force voters to evaluate the state of the economy by looking to the past.

The temporal reference-based economy is useful because it captures country specific factors such as composition of the economy, natural resources and so on, so voters can see if any fluctuations in their economy are oriented from incumbent managerial competence or the country specific characteristics. However, the spatial reference-based economy can provide voters with useful information because it accounts for international environment which affects all countries. The importance of spatial reference points increases in globalization era because it invites a great deal of covariation in the direction of the national economy. When the globalization creates similar ground for all countries, the cross-national comparisons will create a clear picture about the relative state of the economy, which eventually help voters read the incumbent competence in managing the economy. For instance, if voters in country A can compare their decline in growth rate with that of other countries (e.g. neighbors countries or regional economy), and realize that the decline is in tandem with other countries, voters in country A will place less emphasis on competence shock. The decline in country A's economy would not be perceived as managerial incompetence when all other neighboring countries have undergone similar economic adversity. By contrast, if the decline in growth rate is observed in country A only while either no change in growth or even positive growth rate appear in all other neighboring countries, it becomes apparent for voters in country A that the poor performance is a sign of managerial incompetence.

Once voters extract the competence shock from the observed economy, it is easy for them to make a decision on whether to turnout. If mobilization theory is correct, then we would observe higher voter turnout in countries where the economy is relatively poor. By contrast, even if its own national economy is poorer than previous year, there is no reason for voters to mobilize actively when its economy is performing better than others. Therefore, even though voters want to express their grievances for economic downturn, they will be less likely to perceive their performance negatively if their economy is doing better than others. In this scenario, if we only include temporal-based economic variables in turnout models, the results would be a no effect because the observed poor economy will not be perceived as poor due to spatial comparison.

On the other hand, if withdrawal theory is correct, voters will withdraw from their political activities, including casting a ballot, when their national economy is doing worse than other countries. Their relatively poor performance clearly suggests to voters that the government is not able to address the problem, resulting in a loss of confidence in their government and an increase in democratic dissatisfaction (Taylor 2000; Van Erkel and Van der Meer 2016). In turn, as voters becomes disenchanted with political institutions and democratic performance, they become less likely to turn out on election day. Even though voters observe a poor national economy, if their economy is relatively better than others, voters have fewer reasons to lose confidence in their government. Thus, a model with temporal-based economic variable will also produce a null effect because the poor national economy would not be perceived as poor by the voters due to relatively good performance compared to other countries.

In both cases, the null effect raises the question of whether economic variables are properly used in turnout models. In other words, if voters tend to use spatially benchmarked values for economic evaluations, using temporally benchmarked variables in a turnout model would cause measurement error. Measurement error in an explanatory variable has been considered a source of attenuation bias, so on average the estimated OLS effect will be always closer to zero than it is supposed to be (Wooldridge 2013).

Since temporally benchmarked economic variable is insufficient in helping voters extract the competency signal, and there is a great threat of measurement error, I argue that spatially benchmarked economy should be introduced in turnout models. Based on two competing theories, I propose two expectations: 1) *Elections with high levels of relative economic hardships will result in high levels of turnout*, and 2)

Elections with high levels of relative economic hardships will result in low levels of turnout.

I also argue that the effect of relative economy on voter turnout is conditioned by clarity of responsibility. Clarity of Responsibility has been considered an important institutional concept that affects voting behavior since Powell and Whitten's 1993 study. In particular, it influences a voter's ability to assign responsibility for policy outcomes to incumbent leaders. According to the literature on retrospective voting, high-clarity situations make the responsibility attribution mechanism clearer, while low-clarity conditions make it more confusing (Powell and Whitten 1993). If voters know who is responsible for the relative economic hardships, it may encourage voters to turnout because it reduces the cost of information.

Clarity of responsibility affects the cost of voting. Most of the theories that attempt to explain why some people turn out to vote while others do not build on the idea that voting is a costly behavior for citizens (Aldrich 1993). Voting takes time and effort not only to register and go to the polling station (physical costs), but also to identify issues, gather information about the candidates and political parties, and think or deliberate on said information (information costs).

Low clarity of responsibility hinders performance evaluations, as it makes it harder for voters to determine who is responsible for economic outcomes. If policy responsibility is attributed to multiple government actors, voters need to spend more time and effort on gathering information to find out who is responsible for what, which increases the cost of voting. The most common example is the case of a coalition government. When a government is composed of several political parties, it is unclear to voters which of the coalition partners is responsible for each policy.

Incumbents in a coalition government, unlike those of majority governments, can throw the blame for relative poor economic performance on each other, thereby weakening a voter's capability of identifying those who are specifically responsible. In this sense, Lewis-Beck and Lockerbie (1989: 167) argue that "with more parties in power, there is less responsiveness ... to voter views on economic policy. Thus voters who are concerned over the curse of the economy are less motivated to turn out in an attempt to punish (or reward) the government." (Lewis-Beck and Lockerbie 1989: 167) Following this line of reasoning, I expect that *the effect of relative economic hardships on voter turnout will be stronger when the level of clarity of responsibility is high.*

Chapter 3

Spatial Reference Points and the Media

3.1 Compare to what?

Selecting the proper reference points for benchmarking is vital to understanding how voters make use of performance data. Having appropriate reference points is also crucial for conducting accurate empirical tests because using inappropriate reference points will result in model misspecification, which induces omitted variable bias. Thus finding an appropriate reference point is one of the key components to be focused on to understand the role of economic information on voters' evaluation of incumbent performance.

Fundamental questions about the reference points, however, remain unanswered. Temporal reference points are not difficult to construct because it is a matter of selecting a particular time point in the past to compare the current performance with. Although scholars argue that different lags of the economy variables (3-month, 6-month, 12-month) should be considered because voters respond to the changes in the economy at a different speed (Conover et al. 1986), it is still the matter of selecting an appropriate cut-off point within the country. Choosing the spatial reference point, however, is not as simple because it is not always clear where voters look when they make a comparison.

The asymmetric coefficient size in Jerome et al. 's (2001) finding is a good example that shows how the selection of a reference point yields different results. In their sample, Germany and France, each chosen for their mutual reference points based on the assumption that the two are rival countries in the region and they would work best as reference points for each other. The results show that the French are more concerned with German growth rate than vice versa. This implies that perhaps Germany works well as the reference point for French voters as they tend to compare their economy with German performance when making their vote choice. The French economy, however, may not be a good benchmark for the German voters. Instead, citizens in Germany tend to look at other countries such as the US or the UK for the comparative assessment on their incumbents' economic performance.

The problem of finding an appropriate reference point becomes more salient in a cross-sectional time-series analysis because it becomes more complicated to assign a particular reference point for each country and election in a large sample. Perhaps, in part due to this limitation, scholars have applied the average or median value of international economic growth as the reference point for all countries in the sample (Powell and Whitten 1993; Kayser and Peress 2012). However, applying the universal reference point is problematic. As Kayser and Peress (2012) acknowledge, the use of the median or average as international benchmark is based on two strong assumptions. First, the measure assumes that there is a single and common global component that drives the correlation in economic performance across countries. Second, the measure assumes that all countries are equally affected by this global component (Kayser and Peress 2012: 665). As this assumption disregards numerous factors such as size of the economy, level of economic integration to the world market, geographical distance, political and economic similarity, cultural and historical relationships, etc., application of a common reference point does not seem to reflect dynamics of reference points in the real world.

As an alternative way, Kayser and Peress (2012) have used ‘principal components’, that they argue, because voters across different countries may place different weights on global components, the composition of global components should not be based on using the median value of economic performance. Yet the way they construct the ‘principal components’ is to account for a country’s integration into the international and regional economies. By doing so, the authors argue that the measure has the advantage of capturing international and regional economic covariation with other economies depending solely on their integration into the world economy. However, rather than capturing the sensitivity of a country toward the global economy, it is doubtful whether ‘principal components’ can function as the best reference point because it still leaves out important factors such as social, political, historical and cultural elements that may affect the process of constructing reference points.

Acknowledging the complexity of choosing the specific reference points for spatial comparison, Kayser and Peress (2012) leave some important questions open for further scrutiny. For instance, “do countries use more specific sets of comparison countries than those identified in their analysis? Do countries with cultural, linguistic, and historical similarities benchmark against each other more? Might larger countries benchmark less than smaller countries?" (Kayser and Peress 2012: 681).

Given that selecting a spatial reference point is fundamental to testing the benchmarking hypothesis properly, the first goal of this research is to find the appropriate spatial reference points for each country and elections within each country in a time-series cross-national sample. To do so, I first argue that the assumption of equal reference points across all countries is unrealistic, and that using common reference points will yield biased estimations. I also argue that the reference points appearing in existing literature, such as 'principal component' and 'trade weights' in Kayser and Peress (2012), do not sufficiently capture comprehensive factors that may affect where voters look to make comparative evaluations on their incumbents' job in handling the economy.

3.2 Criteria for Spatial Reference Points

Reference points are central in benchmarking or comparison theory. In spite of their ubiquitous use in descriptions and evaluations, the question of what determines the choice of reference points remains relatively unexplored in the relative economic voting literature. Yocke and Kruml (2009) investigate and propose a general theory of reference points by identifying several dimensions thereof: familiarity, connectivity, and similarity. [1]

[1] Yocke and Kruml (2009) actually propose five dimensions including either internal or external *Locus* and *Temporal* dimensions. *Locus* refers to the originating source of the reference point. This dimension is more relevant at organizational or individual level. The *Temporal* dimensions refers to whether the reference point is based on past, present, or future criteria. A large volume of studies

First, people must be *familiar* with some aspects of a stimulus to use it as a reference point. This does not mean that people need to know everything about the reference point, but at least they need to be aware of specific characteristics about the reference point. In case of relative economic voting, for instance, it is necessary for voters to know about economic conditions of other countries, if they tend to benchmark those countries. Thus the more *familiar* people are with a stimulus, the more likely they are to use is as a reference point.

The second dimension, *connectivity*, suggests that the reference point must share a common attribute with the stimulus. According to Yocke and Kruml (2009), people are likely to categorize an object into multiple domains based on various attributions. For instance, people tend to categorize an apple by its size, shape, color, or food category. In this sense, a shared feature (connectivity) facilitates the categorization process. In relative economic voting, voters tend to select a reference point from the same category tree. A country in the European Union block is likely to be compared with other countries in the EU and so on.

In a similar vein, the third dimension of reference points focuses on *similarity*, which makes comparison more meaningful and appropriate. Similar to the categorical connection, further similarities increase the perceived appropriateness of the reference point (Yocke and Kruml 2009). For instance, even if countries are in the same EU block, Latvia will look to Estonia and Lithuania for relative comparisons more than Germany and France due to the similar size of the economy, the similar political/historical context, and a geographical vicinity. Put differently, the greater

in economic voting has reveal that voters tend to compare current economic conditions against that of the past, so called 'retrospective economic voting'. As stated above, the first goal of this research is to identify the appropriate spatial reference points at a country-level, the *Locus* and *Temporal* dimensions are not include in this analysis.

similarity it is, the more likely that it will serve as a reference points (Yocke and Kruml 2009). In fact, Fortunato et al. (2018) argue that voters are more sensitive to economic performance of a states which have similar structures of economic production. For instance, voters in agriculture-heavy states tend to look at the economy of other agriculture-heavy states for comparisons while voters in finance-heavy states tend to use other finance-heavy states' economic conditions as yardsticks.

Following Yocke and Kruml's (2009) sources of reference points, I argue that citizens tend to care more about countries that are familiar, connected, and similar to their own. I also argue that familiarity, connectivity, and similarity may be deeply rooted in political, cultural, geographical, and historical backgrounds. How then do we know which countries are more familiar, connected, and similar to a particular country? Unless there is a survey asking individuals directly about which country or countries they care more about, it is hard to know what countries the average citizens in a country are likely to pay attention to.

3.3 Media and Spatial Reference

Answering the above question, I argue that media coverage can assist in finding where citizens are looking. There is ample evidence showing that the media plays an integral role in affecting economic evaluations (Hetherington 1996; De Boef and Kellstedt 2004; Duch and Stevenson 2007, 2008; Erikson et al. 2002; Nadeau et al. 1999). Hetherington (1996) suggests two main channels of media, *priming* and *framing*, in forming voters' evaluations.

First, the media can prime the public to evaluate incumbents on the basis of what the media emphasizes. Given that electorates are known to be fairly low in political sophistication (Converse 2000), they must rely on what is readily accessible in memory (Hetherington 1996). Because the media is a primary source of information, it can influence opinion formation. Second, if the media presents a series of news on broader societal concerns in a thematic framework, this may cause media consumers to assign blame to elected officials or institutions. For instance, thematic framing of the poor economy may lead media viewers to attribute its condition to incumbents.

Scholars have also found the media as a useful source of benchmarking activity. For instance, Kayser and Peress (2012) argue that voters can cast benchmarked economic votes when they receive pre-benchmarked information on the economic condition. By analyzing the tone of the economic news, Kayser and Peress (2012) show that media actually provided with pre-benchmarked information such that the tone of economic news in *The Times* becomes positive when the UK economy is outperforming other countries.

In their follow up research, Kayser and Peress (2015), using a dataset of 32 newspapers from 16 countries in six languages, show that the effect of economic growth (but not of inflation or unemployment) on the vote is heavily mediated by media reporting. Similarly, Fortunato et al. (2018) also use media coverage to construct a weights matrix (W) for a spatial analysis. They incorporate news media as a means of providing economic information in a comparative context, and calculate portions of economic news articles about other states. The greater the portion of a particular state, the bigger the role of that state as a reference point.

Following this line of research, I believe that media disseminates information that helps citizens evaluate overall variance in shocks to the economy. Said differently, the media increases public awareness on other countries' economy. The way the media assigns a portion of its coverage to a particular country depends on to what extent the countries have familiarity, connectivity, and similarity. Thus there is a high probability that a country or countries that share a great deal of historical, political, cultural, and economic/trade relationships will be reported frequently by domestic news agencies. In contrast, a country or countries that lack common ground with a particular country would receive less media attention. Therefore, the proportion/frequency of media coverage in country A on a particular country or countries tells us to what extent that country is familiar, connected, and similar to country A.

Second, given that media coverage is also a reflection of public opinion, I expect that there is large overlap between what the media sees and where the public sees. If Germany is the country that appears most frequently in French media, this implies that the French citizens tend to care about what is going on in Germany. In this case, it is reasonable to assume that French voters would compare their state of economy with German economic conditions. Put differently, Germany is the appropriate spatial reference point for French voters.

In contrast, if French media do no cover much about Germany but more about other countries like the UK, the US or the EU, this means that the French would find themselves more familiar, connected, similar or rival to the US, the UK or the EU. Again, this implies that the French voters would tend to use the UK, the US, or the EU as the means of yardstick when they evaluate the domestic economic conditions. Media coverage allows us to find a country or countries that can be used as appropriate reference points. In sum, the media coverage is useful because not only it is the reflection of public attention, but also it creates public awareness by disseminating information about a country or countries.

3.4 Data Collection

To identify appropriate spatial reference points across countries and across elections, I count the frequency of news reports of other countries by using content analysis of economic news items obtained from Lexis-Nexis. The Lexis-Nexis, to the best of my knowledge, contains the most comprehensive news reports (more than 15,000 news, business and legal sources) from more than 120 countries in about fifty languages since the 1970s.

First, I find all available domestic news media sources per country in the sample. There are great variations in the number of available news media sources across countries in Lexis-Nexis. In case of France, there are over 50 news media sources in French and English, whereas there are only four news media sources for Malta. In most cases, there is at least one media source per country available in its own language, except the Baltic countries (Latvia, Estonia, and Lithuania). For these three countries, I only obtained domestic news articles, but written in English. On average, there are about 15 news media sources per country. Table 3.1 presents the list of news media sources per country.

Based on these selected news media sources, I use a country's name as a keyword to search any new items reporting about that country. Following general intuition, I include all countries that might be relevant to the media host country. For instance, once I select news media sources from Italy, I want to see how often these Italian news media speak about Greece, Spain, Germany, France, the UK, the US, Netherlands,

Table 3.1: The Sources of New Media

Country	News Media
United Kingdom	The Daily Telegraph, The Sunday Telegraph, The Times, The Sunday Times, The Guardian, The Guardian Weekly, Gazeettelive, Get Hampshire, Get Reading, Get Surrey, Glasgow East News, The Independent , West Briton, The Journal, The Sunday Herald, Regional Newswire of the English Regions, Yorks and Humber, West Midlands, South West, South East, North East, North West, London, East Midlands, East Anglia, Wales, Scotland, Northern Ireland, Corporate Finance News, News Bites-UK
Germany	Aar Bote, Allgemeine Aeitung, Automotive News German Industry Newsletter, Burstadter Zeitung, Darmstadter Echo, Dpa International, EQS Newsfeed(German), Giessener Anzeiger, Hochheimer Zeitung, Hofheimer Zeitung, Kreis Anzeiber, Lampertheimer Zeitung, Lauterbacher Anzeiger, Main-Spitze, Main-Taunus-Kurier, News Bites-Germany, Oberhessische Zeitung, Wormser Zeitung, Welt Aktuell, Wiesbadener Tagblatt, Wiesbadener Kurier, Usinger Anzeiger, Sees News Germany, OTS-Deutschland
France	Abaca Press, Actu Labo, Afriki Presse, Agence France Press, Agence France Press-German Agence France Press-Portuguese, Agence France-Spanish, Agence France France-Arabic, Aujourdhuei en France, Aujourdhuei en France Economie, Banking in France, Bdulder.fr, El Paris, ESQ Newsfeed-French, France 24-English, France 24-French, Infolegale-Fiche Didentite Enterprise, L'Echo Charitois, L'Echo Republican, L'Eclaireur du Gatinais, L'Eveil de la Hauete Loire, L'Eveil Hebdo, L'Yonne Republicaine, La Gazette de la Haute-Loire, La Gazette de Thiers et dAmbert, La Montagne, L Republique du Centre, L Rauche, L Republique du Centre, L Ruche, La Voix du Sancerrois, Le Berry Republicain, Le Courrier du Loiret, Le Figaro Magazine, Le Havre-Libre, Le Journal de Gien, Le Maine Libre, Le Parisien Magazine, Le Pays Roannais, Le Popularie du Center, Le Progres de Fecamp, Le Regional de Cosne dt du Charitois, Le Reveil du Vivarais, Le Trombinoscope, News Bite-France, Ouest-France, Presse Ocean, Presse News France, RFP English, RFI French, Sees News France, Whos Who in France

Table 1: The Sources of New Media (continued)

Country	**News Media**
Denmark	Business Wire Dansk, Hugin-Danish, Cision Nordic Companies Press Releases, Danish Business Digest, M-Brain Denmark News, News Bites-Nordic, News Bites-Denmark, Nordic Daily, Politiken and Politiken
Norway	The Norwegian Business Digest, Nordic Daily, News Bites-Norway, News Bites-Nordic, Business Wire Norsk, Cision Nordic Companies Press Release, Hugin Norwegian, M-Brain Borway News
Sweden	Swedish Business Digest, Nordic Daily-Sweden, News Bites-Sweden, News Bite-Nordic, M-Brain Sweden News, Cision Nordic Companies Press, STT info Swedish, Hugin Swedish, Global Ad Source Swedish, Affarsvarlden Sweden
Finland	Kauppalehti.fi, Kauppalehti, Finnish Business Digest, Hugin Finish, STT info Finnish, Nordic Daily, News Bite Nordic Finland, Business Wire Suomen Kiele, M-Brain Finland News
Netherlands	TE Briefing Weg, TE Briefing Multi, See News Netherlands, NRC Handelsblad, Noordhollands Dagblad, Money-Dutch, Metro-Dutch, Investing-Dutch, BIZZ Dutch, Barbants Dagblad, Business Wire Netherlands, Cash Dutch, Company NewsGroup-Dutch, DeStentor/Zutphens Dagblad, The Dutch Economy, Harrems Dagblad, Algemeen Netherladns Persbureau ANP, AFX-NL, News Bites Benelux-Netherlands, Global Ad Source-Netherlands
Belgium	TE Briefing Weg, TE Brief Multi, See New Belgium, News Bites Benulux Belgium, Belgian Company info, Beleggers Belangen Bizz Dutch, De Telegraaf, De Volkskrant, Het Parool
Luxembourg	News Bie Benelus-Luxembourg,Luxembourg Business Digest, Luxembourg Wort, Luxembourg Wort English, Luxembourg Wort French, Luxembourg Wort Portuguese, Le Quotidien

Table 1: The Sources of New Media (continued)

Country	News Media
Spain	Spanish Newswire Service, See News Spain, PR Newswire Europe-Spain, News Bites-Spain, Expansion-Madrid, EFE-Vizcaya-Spain, EFE Valencia, EFE Tiurisom, EFE Toledo, EFE Madrid, EFE Empresas, EFE EfeArgo-Mas Importantes, EFE Economia de Espana, EFE Cultura, EFE Cuenca, EFE Coruna, EFE Ciencia Tecnologia, EFE Bienestar Social, Business Spain, Business Wire Espanol, Comunicae Spain, EFE Albacete, EFE Almeral, EFE Bcrelona, EFE Asturias
Italy	See News Italy, PR Europe-Italy, News Bites-Italy, La Stampa, La Nazione, La Gazzetta dello Sport, II Resto del Carlino, LL Giorno, Business Wire Italiano, ANSA Notiziario Generale in Italiano, ANSA med-Italian, Global Ad Source- Italian, Hugin-Italian
Portugal	Tendencias Weekly, Tendencias Monthly, Tendencias Data, Tendencias Daily, Tela Non, Tecnologia, See News Portugal, Saude, RFI-Portuguese, Responsabilidade Socio, Quardro Societarin, PR Newswire em Portuguese, Portuguese Independent News, Politica, Pan African News-Portuguese, iCrowd Newswire-Portuguese, Hugin Portuguese, Euro News Bersao em Portuguese, Central Bank Watch Portuguese, CE Noticias Financieras Portuguese, BBC Portuguese
Greece	Greek Business Digest, Infocredit Business Info Report-Greece, News Bites-Greece, EuroNews-Greek, Law Is Greek
Cyprus	Tala Aub Ghasaleh News, News Bite-Cyprus, Infocredit Business Cyprus, Financial Mirror, Cyprus main, Cypriot Business Digest, Government News, Banks and Brokers Reports
Malta	News Bites-Malta, Malta Today, The Malta Independent, The Malta Business Weekly
Switzerland	AFX-Swiss, Swiss Review of World Affairs, AWP Premium Swiss News French, AWP Premium News German, Worldbox Switzerland, Swiss Financial, Company Register Switzerland, See Nes Switzerland, News Bite Switzerland, News Aktuell Switzerland, ESQ Newsfeed German, ESQ Nessffed French, ESQ Newsfeed English

Table 1: The Sources of New Media (continued)

Country	**News Media**
Ireland	The Irish Post, The Irish Times, Newswire Ireland, News Bite Ireland, News Ross Standard, Irish Mirror, Wicklow People Ireland, Wexford People Ireland, Ballymena Times, Ballymony Times, Belfast News Letter, Belfast Telegraph, Belfast Telegraph Online, Bray People, D&B Financial Analysis Report Irish, Drogheda Independent Ireland, Evening Herald, Enniscorthy Guardian Ireland, Gorey Guardian Ireland, Irish Independent
Latvia	News Bites Baltic, The Baltic Times, Baltic News Service, M-Brain Latvia News
Estonia	Estbusiness, Baltic Legal Update, Baltic News Service, M-Brain Estonia News, Intellinews Baltic State Today, The Baltic Times, Emerging Market Broker Report Baltic
Lithuania	News Bite Baltic, M-Brain Lithuania News, Baltic States Today, Emerging Market Reports, East Business, The Baltic Times, Baltic News Services
Slovakia	Tsar, Slovak Spectator, News Slovakia, Newon Industry Digest Slovakia, Newton Macroeconomy Slovakia, News Bites Slovakia, Slovakia Today, Slovakia This Week, Slovakia Business Weekly, CTK National News Wire, M-Brain Slovak Republic News
Bulgaria	Dnevink Bulgaria, Dnevnik Zelen, Dnevnik Biznes, Dnevnik Analizi, Bulgarian Economic Statistic, Bulgarian Central Bank News, Capital, Bulgaria This Week, Bulgaria Today, M-Brain Bulgaria News, News Bites-Bulgaria, The Sofia Echo
Romania	Romanian Economic Statistic, Romanian Central Bank News, News Bite-Romania, Romania Today, Romania This Week, Infocredit Report Romania, Romanian Business Association News, Romanian Government News, Romanian Banks Report

Table 1: The Sources of New Media (continued)

Country	**News Media**
Czech	The Prague Post, Czech Business Weekly, CTK National News, CTK Business New, News Czech Republic, Newton Macroeconomy Czech Republic, Newton Business Digest Czech, News Bite-Czech, M-Brain Czech, Intellinews Czech, Central Europe News, Central Europe Banking and Finance Weekly
Hungary	See News Hungary, Hungary Today, Budapest Business, Faktor, Hungary Business Weekly, Hungarian Official News Digest, Euro News Hungarian, Hungary This Week, M-Brain Hungary, News Bite-Hungary, Central and Eastern Europe, Central Europe Banking and Finance Weekly
Poland	Gazeta Wyborcza in Polish, Gazea Wyborcza in English, Poland This Week, See News Poland, News Bite Poland, Intellinews Poland Today, Central Europe Bank and Finance Weekly, Polish News Bulletin, Poland Business Weekly, PAP News Wire, GzaetaPrawna, Polish Company Report, Business News Poland
Australia	ABC Premium News Australia, ABC Regional News Australia, The Advocate, The Sunday Mail, Canberra Times, Cannign Times, City North Times, The Daily Telegraph-Australia, Eastern Suburbs Reporter, Guardian Express Australia, Melville Times, NT Business Review, RWE Australian Business News, Stirling Times, Sunday Morning Herald, The Weekly Review Melbourne Times, Australian Financial Review, Business Review Australia, Illawarra Mercury Australia, Australian Burea of Statistics Economy Finance
New Zealand	The Wellington, Waitaki Herald, Wairarapa News, Waikato Times, The Tribune News Zealand, Taupo Times, The Tasman Leader, Taranaki Daily, The Sunday Star-Times Auckland, Sunday News, The Southland Times, South Cantebury Herald, Rotorua Review, Roedey Times, Hamilton Press, News Zealand Company News Bites, The New Zealand Herald, National Business Review New Zealand
Japan	Nikkei Asian Review, News Bites Japan, JCN Newswire, Japanese Business Digest, The Japan Times, The Japan News, Japan Economic Newswire, Japan Economic Foundation, Japan Corporate News Network, Business Wire Japanese, Japanese World

Belgium, Switzerland, Austria, and so on. Selecting the group of countries is based on similarity, connectivity, and familial, so I try to include countries that share borders, have similar size and composition of the economy, share historical and political background and so on.

I type the name of each country in English and Italian such as Greece (Grecia), Spain (Spagna), Germany (Germania), France (Francia), the United Kingdom/Great Britain (Regnao Unito/ Gran Breganga),the United States/ America (Stati Uniti/ America), Netherlands (Olanda), Belgium (Belgio), Switzerland (Svizzera), Austria (Austria). I also include the EU as a potential candidate for a spatial reference point. Although the EU may not be compatible with other countries because it is not a single country, it is reasonable to believe that regional economic community such as the EU would be frequently benchmarked by Media.

Turning to the Italian example, if the Italian news media provide comprehensive coverage about the EU's economy, Italian voters are likely to place their own economy against the EU's as a means of comparison. Given that the basic idea of identifying the most appropriate spatial reference points is to 'let the media choose', omitting the EU from the candidate list will violate this fundamental idea, and eventually will force voters to use inappropriate yardstick for comparative assessment.

Once I select a list of country names as potential candidates for a spatial reference point, I limit the scope of news topics to economy-related news. The media delivers news on numerous topics such as politics, culture, sports, security, the environment and so on. The economy is usually always one of them. If Spain appears in Italian news media frequently, but the topic is almost always about sports, such as soccer, then it is rather questionable to conclude that Italian voters use Spanish economy as a yardstick in comparing their own economic performance.

In order to assist voters in conducting a relative economic comparison, the reference points will function best if they are attached to the economy. Put simply, Spanish economic information will help Italian voters evaluate their own economy rather than Spanish sports stories. For this reason, I take into consideration various economy-related key words such as *economy, economic, growth, inflation, unemployment, job, jobless, income, interest rate, trade, spending, investment, credit, consumer price, money, productivity, business, output, wage, price, finance, consumption, expenditure, debt, industry, goods and services.*

I translate these words into a country's official languages, so they would be in Italian: *economia, economico, crescita, inflazione, disoccupazione, lavoro, senza lavoro, reddito, tasso d'interesse, commercio, la spesa, investimento, credito, prezzo al consumo, i soldi, produttività, attività commerciale, produzione, salario, prezzo, finanza, consumo, debito, debito, beni e servizi.* If countries use multiple official languages, such as Netherlanders, I use the economy-related key words in all of its official languages. All in all, the key words for the economy have been searched in 22 languages. Table 3.2 presents the list of economy-related key words in 22 different languages.

The time period of this news search begins one year prior to an election day. This strategy allows spatial reference points vary across elections, so Spain does not have to be the spatial reference point for Italian voters regardless of different time zones. Spain could be a salient/important country to Italy in the 1990s, but it also would not be as important as the EU in 2015. Although I assume there is a strong path-dependent tendency in spatial reference points, I can verify if this assumption holds by allowing time to vary based on election day.

Table 3.2: The Economy-related Key Words across Languages

Language	Expressions related to the Economy
English	economy, economic, growth, inflation, unemployment, job, jobless, income, interest rate, trade, spending, investment, credit, consumer price, money, productivity, business, output, wage, price, finance, consumption, expenditure, debt, industry, goods and services
German	Wirtschaft, wirtschaftlich, Wachstum, Inflation, Arbeitslosigkeit, Job, arbeitslos, Einkommen, Zinsrate, Handel, Ausgaben, Investition, Kredit, Verbraucherpreis, Geld, Produktivität, Geschäft, Ausgabe, Lohn, Preis, Finanzen, Verbrauch, Ausgaben, Schuld, Industrie, Waren und Dienstleistungen
French	économie , économique, croissance, inflation, chômage, emploi, sans emploi, le revenu, taux d'intérêt, Commerce, dépenses, investissement, crédit, prix consommateur, argent, productivité, Entreprise, sortie, salaire, prix, la finance, consommation, dette, industrie, biens et services
Dutch	economie, economisch, groei, inflatie, werkloosheid, baan, werkloos, inkomen, rente, handel, uitgaven, investering, credit, consumentenprijs, geld, produktiviteit, bedrijf, uitgang, voeren, prijs, financiën, consumptie, schuld, industrie, goederen en diensten
Bulgarian	икономика, икономически, растеж, инфлация, безработица, работа, без работа, доход, търговия, разходи, инвестиция, кредит, потребителска цена, пари, продуктивност, бизнес, продукция, заплата, финанси, дълг, промишленост, стоки и услуги
Greek	οικονομία, οικονομικός, ανάπτυξη, πληθωρισμός, ανεργία, εισόδημα, επιτόκιο, δαπανών, επένδυση, πίστωση, καταναλωτή, χρήματα, παραγωγικότητα, επιχείρηση, παραγωγή, μισθός, χρηματοδότηση, κατανάλωση, χρέος, βιομηχανία, αγαθά και υπηρεσίες
Czech	ekonomika, hospodářský, růst, inflace, nezaměstnanost, práce, příjem, úroková sazba, výdaje, investice, kredit, ceny, peníze, produktivita, podnikání, výstup, mzda, cena, finance, dluh, průmysl, zboží a služeb

Table 2: The Economy-related Key Words across Languages (continued)

Language	**Expressions related to the Economy**
Danish	økonomi, økonomisk, vækst, inflation, arbejdsløshed, job, arbejdsløs, indkomst, rentesats, handle, udgifter, investering, kredit, forbrugerpris, penge, produktivitet, forretning, produktion, løn, pris, finansiere, forbrug, gæld, industri, varer og tjenesteydelser
Estonian	majandus, majanduslik, kasvu, inflatsioon, tööpuudus, töökoht, tulu, intress, kaubandus, kulutused, investeeringud, krediit, tarbijahind, raha, äri, tootlikkus, väljund, palk, hind, rahastada, tarbimine, võlg, tööstus, kaupu ja teenuseid
Finnish	talous, taloudellinen, kasvu, inflaatio, työttömyys, Job, työtön, tulo, korko, menot, investointi, luotto, kuluttajahinta, raha, tuottavuus, liiketoiminta, ulostulo, palkka, hinta, Rahoittaa, kulutus, velka, ala, tuotteet ja palvelut
Hungarian	gazdaság, gazdasági, növekedés, infláció, munkanélküliség, munka, jövedelem, kamatláb, kereskedelmi, kiadások, beruházás, hitel, fogyasztói ár, pénz, üzleti, kibocsátás, termelékenység, bér, pénzügy, fogyasztás, adósság, ipar, termékek és szolgáltatások
Italian	economia, economico, crescita, inflazione, disoccupazione, lavoro, senza lavoro, reddito, tasso d'interesse, commercio, la spesa, investimento, credito, prezzo al consumo, i soldi, produttività, attività commerciale, produzione, salario, prezzo, finanza, consumo, debito, debito, beni e servizi
Japanese	経済, 経済的, 成長, インフレーション, 失業, ジョブ, 所得, 金利, トレード, 支出, 投資, クレジット, 消費者価格, お金, 生産性, ビジネス, 賃金, 価格, ファイナンス, 消費, 債務, 業界, 商品とサービス
Latvian	ekonomika, ekonomisks, izaugsme, inflācija, bez darbs, darbs, ienākumi, procentu likme, tirdzniecība, izdevumi, ieguldījumi, kredíts, patēriņa cena, nauda, produktivitāte, Bizness, alga, cena, parāds, nozare, preces un pakalpojumi, patēriņš
Lithuanian	ekonomika, ekonominis, augimas, infliacija, nedarbas, darbas, pajamos, palūkanų norma, prekyba, išlaidų, investicijos, kreditas, vartotojo kaina, pinigai, našumas, verslas, darbo užmokestis, kaina, finansuoti, vartojimas, skola, industrija, prekes ir paslaugos

Table 2: The Economy-related Key Words across Languages (continued)

Language	Expressions related to the Economy
Norwegian	økonomi, økonomisk, vekst, inflasjon, arbeidsledighet, jobb, arbeidsløs, inntekt, rentesats, handel, utgifter, investering, kreditt, forbrukerpris, penger, produktivitet, virksomhet, lønn, pris, finansiere, forbruk, gjeld, industri, varer og tjenester
Polish	gospodarka, gospodarczy, wzrost, inflacja, bezrobocie, praca, bezrobotny, dochód, oprocentowanie, handel, wydatki, wydatki, kredyt, Cena konsumenta, pieniądze, wydajność, biznes, gaża, Cena £, finanse, konsumpcja, dług, przemysł
Portuguese	economia, econômico, crescimento, inflação, desemprego, trabalho, renda, taxa de juro, comércio, gastar, investimento, crédito, preço ao consumidor, dinheiro, produtividade, o negócio, salário, preço, finança, consumo, dívida, indústria, bens e serviços
Romanian	economie, economic, creştere, umflare, şomaj, loc de munca, sursa de venit, rata dobânzii, comerț, cheltuire, investiție, credit, prețul de consum, bani, productivitate, Afaceri, salariu, Preț, finanţa, consum, creanţă, industrie, bunuri si servicii
Slovak	hospodárstvo, ekonomický, rast, inflácie, nezamestnanosť, zamestnania, príjem, úroková sadzba, obchod, výdavky, investície, úver, spotrebiteľská cena, peniaze, produktivita, obchodné, mzda, cena, financie, spotreba, dlh, priemysel, tovary a služby
Spanish	economía, económicom, crecimiento, inflación, desempleo, trabajo, ingresos, tasa de interés, gasto, inversión, crédito, precio al consumidor, dinero, productividad, negocio, salario, precio, financiar, consumo, deuda, industria, bienes y servicios
Swedish	ekonomi, ekonomisk, tillväxt, inflation, arbetslöshet, jobb, inkomst, ränta, handel, utgifterna, investering, kreditera, konsumentpris, pengar, produktivitet, företag, lön, pris, finansiera, konsumtion, skuld, industri, varor och tjänster

To summarize the above-mentioned steps, consider this example. If Finland had an election on December 15 in 2005, and I want to find the number of news reports on the Norwegian economy that appeared in Finish news media, I use 'Norway' as country name, and limit the scope of topics to economy-related news, and limit the range of time from December 15, 2004 to one day before the election (December 14, 2005). I then search another country's name (e.g. Sweden) and obtain the frequency of reports on these news items.

3.5 Data

Given that voters use the spatial reference points as a yardstick, I do not believe that voters will use many yardsticks, but argue that they tend to rely on only a handful. Thus for each election in a country, I obtain the frequency of economic news reports, and then rank them according to the quantity of media reports.

Based on this ranking, I select the top three countries for the source of constructing spatial reference points. I use only three because it seems more realistic that voters will only use a couple of references. More specifically, I argue that the reference points function to give a heuristic short cut for voters to make comparisons, and thus it is reasonable to assume that they tend to make a small number of comparisons rather than many. In addition, I posit that it is also cognitively demanding for voters to make such a large number of comparisons because multiple comparisons require more information.

Table 3.3 presents the list of countries that appeared in each country's domestic news media regarding the economy. One noticeable point is that there is a strong

Table 3.3: The Media-based List of Spatial Reference Points across Countries and Elections

Country	Election	Rank 1	Rank 2	Rank 3
Australia	1987	New Zealand	Japan	Germany
	1990	New Zealand	Japan	Germany
	1993	New Zealand	Japan	Germany
	1996	New Zealand	Japan	EU
	1998	New Zealand	Japan	EU
	2001	New Zealand	Japan	EU
	2004	New Zealand	Japan	EU
	2007	New Zealand	Japan	EU
	2010	New Zealand	Japan	United Kingdom
	2013	New Zealand	Japan	EU
Austria	1999	EU	Germany	France
	2002	Italy	Germany	France
	2006	France	EU	United Kingdom
	2008	France	EU	United Kingdom
	2013	EU	France	United Kingdom
Belgium	1995	Germany	France	EU
	1999	Germany	France	EU
	2003	Germany	EU	France
	2007	Germany	France	EU
	2010	Germany	EU	France
	2014	Germany	EU	France
Bulgaria	1994	EU	Hungary	Romania
	1997	EU	Romania	Hungary
	2001	EU	Romania	Hungary
	2005	EU	Romania	Hungary
	2009	EU	Romania	Greece
	2013	EU	Romania	Hungary
Cyprus	1998	Greece	Germany	EU
	2003	Greece	EU	Germany
	2008	EU	Greece	Germany

Table 3: The Media-based List of Spatial Reference Points across countries and elections (continued)

Country	Election	Rank 1	Rank 2	Rank 3
Czech Republic	1992	Hungary	Germany	Poland
	1996	France	Germany	EU
	1998	France	EU	Poland
	2002	France	Poland	EU
	2006	EU	Poland	Hungary
	2010	Poland	Hungary	EU
	2013	Poland	Hungary	EU
Denmark	1998	EU	Germany	France
	2001	EU	Germany	France
	2005	Sweden	EU	United Kingdom
	2007	Sweden	United Kingdom	EU
	2011	Sweden	Norway	Finland
	2015	Sweden	Finland	United Kingdom
Estonia	1995	Latvia	Lithuania	EU
	1999	Lithuania	Latvia	EU
	2003	Lithuania	Latvia	EU
	2007	Lithuania	EU	Latvia
	2011	Latvia	Lithuania	EU
	2015	Latvia	Lithuania	EU
Finland	2003	Norway	United Kingdom	EU
	2007	Sweden	Norway	Germany
	2011	Sweden	EU	Norway
	2015	Sweden	United Kingdom	Norway
Germany	1998	EU	France	United Kingdom
	2002	EU	United Kingdom	France
	2005	France	EU	United Kingdom
	2013	EU	France	United Kingdom
Greece	2004	EU	United Kingdom	Germany
	2007	EU	United Kingdom	Germany
	2009	EU	United Kingdom	France
	2012	United Kingdom	EU	France
	2015	France	EU	Germany

Table 3: The Media-based List of Spatial Reference Points across countries and elections (continued)

Country	Election	Rank 1	Rank 2	Rank 3
Hungary	1994	Germany	Czech	Poland
	1998	Czech	Poland	Germany
	2002	EU	Germany	France
	2006	Poland	Czech	EU
	2010	Poland	Germany	Czech
	2014	EU	Poland	Germany
Ireland	1992	United Kingdom	Germany	France
	1997	EU	United Kingdom	Germany
	2002	United Kingdom	EU	Germany
	2007	United Kingdom	EU	Germany
	2011	United Kingdom	Germany	EU
Italy	1992	Germany	France	Spain
	1994	Germany	France	Spain
	1996	Germany	France	Spain
	2001	Germany	France	Spain
	2006	Germany	France	Spain
	2008	Germany	France	Spain
	2013	Spain	Germany	France
Japan	1980	Germany	France	S. Korea
	1983	France	Germany	S. Korea
	1986	Germany	France	S. Korea
	1990	Germany	S. Korea	France
	1993	Germany	S. Korea	France
	1996	S. Korea	Germany	France
	2000	S. Korea	Germany	France
	2003	S. Korea	Germany	France
	2005	Germany	S. Korea	France
	2009	S. Korea	Germany	France
	2012	S. Korea	France	France

Table 3: The Media-based List of Spatial Reference Points across countries and elections (continued)

Country	Election	Rank 1	Rank 2	Rank 3
Latvia	1995	Estonia	Lithuania	EU
	1998	Lithuania	Estonia	EU
	2002	Lithuania	Estonia	EU
	2006	Lithuania	Estonia	EU
	2010	Lithuania	Estonia	EU
	2011	Lithuania	Estonia	EU
	2014	Lithuania	Estonia	EU
Lithuania	1992	Latvia	Estonia	EU
	1996	Latvia	Estonia	EU
	2000	Estonia	Latvia	EU
	2004	Estonia	Latvia	EU
	2008	Estonia	Latvia	EU
	2012	Latvia	Estonia	EU
Luxembourg	1999	France	Germany	United Kingdom
	2004	France	Germany	United Kingdom
	2009	France	EU	Germany
	2013	France	Germany	United Kingdom
Netherlands	1994	Denmark	Sweden	France
	1998	EU	Sweden	Denmark
	2002	EU	France	Germany
	2003	EU	France	Germany
	2006	EU	France	Sweden
	2010	EU	France	Sweden
	2012	EU	Finland	France
New Zealand	1996	Australia	Japan	United Kingdom
	1999	Australia	Japan	United Kingdom
	2002	Australia	Japan	United Kingdom
	2005	Australia	Japan	United Kingdom
	2008	Australia	United Kingdom	Japan
	2011	Australia	Japan	United Kingdom
	2014	Australia	Japan	United Kingdom

Table 3: The Media-based List of Spatial Reference Points across countries and elections (continued)

Country	Election	Rank 1	Rank 2	Rank 3
Norway	2001	United Kingdom	Sweden	EU
	2005	Sweden	United Kingdom	EU
	2009	Sweden	EU	United Kingdom
	2013	Finland	Sweden	EU
Poland	1993	Germany	Hungary	France
	1997	EU	Germany	Czech
	2001	EU	Germany	France
	2005	EU	Germany	Czech
	2007	EU	Czech	Hungary
	2011	EU	Germany	Czech
	2015	EU	Germany	Czech
Portugal	1999	Spain	United Kingdom	Germany
	2002	Spain	United Kingdom	Germany
	2005	United Kingdom	Spain	EU
	2009	Spain	EU	United Kingdom
	2011	EU	Spain	United Kingdom
	2015	EU	Spain	United Kingdom
Romania	2000	EU	Hungary	Poland
	2004	EU	Hungary	Bulgaria
	2008	EU	Bulgaria	Hungary
	2012	EU	Poland	Hungary
Slovakia	1994	Czech	Germany	EU
	1998	Czech	EU	Hungary
	2002	Czech	EU	Germany
	2006	Czech	EU	Germany
	2010	Czech	EU	Germany
	2012	Czech	EU	Germany
Spain	1996	EU	Germany	Portugal
	2000	Germany	Italy	France
	2004	Germany	France	Italy
	2008	United Kingdom	EU	Portugal
	2011	Germany	Italy	Portugal
	2015	Germany	Italy	Portugal

Table 3: The Media-based List of Spatial Reference Points across countries and elections (continued)

Country	Election	Rank 1	Rank 2	Rank 3
Sweden	1998	Denmark	Germany	EU
	2002	Denmark	EU	Germany
	2006	Denmark	Norway	Finland
	2010	Norway	Denmark	Finland
	2014	Finland	United Kingdom	Norway
Switzerland	1995	Germany	France	EU
	1999	EU	France	United Kingdom
	2003	EU	France	United Kingdom
	2007	EU	France	Germany
	2011	EU	Germany	France
	2015	EU	France	United Kingdom
United Kingdom	1983	France	Germany	EU
	1987	Germany	France	EU
	1992	Germany	France	Italy
	1997	Germany	France	EU
	2001	Germany	France	Italy
	2005	Germany	France	Italy
	2010	Germany	France	Italy
	2014	Germany	France	Italy
France	1993	United Kingdom	EU	Germany
	1997	EU	United Kingdom	Germany
	2002	EU	United Kingdom	Germany
	2007	EU	United Kingdom	Germany
	2012	EU	United Kingdom	Italy

stability in the ranking, especially in the Rank 1 category. For instance, New Zealand has always been the most frequently named country in Australian news media for its economy since the late 1980s. Countries like Belgium, Bulgaria, Luxembourg, New Zealand, Romania, and Slovakia show no changes in their Rank 1 category, suggesting that media tend to focus on countries that have frequently made headlines in the past.

There are also ample cases that show variations in the rank across elections. For instance, in the Czech Republic, the French economy used to mostly appear in their news media between 1996 to 2002, but then it disappeared from the list of top three countries since 2006. Instead, Poland, which used to be in the Rank 3 category in 1992 and 1998, moved to a higher ranking (Rank 2 in 2002 and 2006), and finally became the mostly covered country since 2010. This suggests that there have been gradual changes in media coverage in the Czech Republic. More attention was given to developed economies such as France and Germany in the 1990s, but that attention has since shifted toward developing countries such as Poland and Hungary since mid of the 2000s.

Regarding variations in the rank across elections, Denmark and Japan draw particular attention. In both countries, the domestic media began to pay more attention to large economies such as the EU, Germany, France, and the UK in Danish media, and Germany and France in Japanese media. But this attention has moved toward regional economies such as Sweden, Finland, and Norway in Danish case, and South Korea in the Japanese case. This pattern matches well with the changes in trade volume. For instance, Germany used to be one of the largest trading partners to Japan in the 1980s and 1990s. However, as Korea has integrated into the world market with her rapidly growing economy since 1990s, it became the third largest trading partner to Japan, whereas Germany and France ranked as its 10th and 18th largest trading partner since the 2000s respectively.

Another noticeable observation is that each group looks to its own interests. For instance, the Scandinavian countries such as Norway, Finland, Sweden, and Denmark tend to look each other's economic news. The Baltic countries, Latvia, Lithuania, and Estonia show similar results in that the domestic media covers economic news more often among their neighbors.

There is also a unique but consistent pattern in the United Kingdom and France. In the UK, a great amount of attention was given to Germany and France (and Italy since the 2000s). The EU barely appeared in the UK news media in the top category (except in the early 1980s to the mid-1990s). This suggests that the EU is rather less relevant to the UK media compared to Germany and France.

However, the French case shows a stark difference. Although the UK and Germany have received media attention from French media since 1993, the EU has appeared in the Rank 1 category since 1997. It seems that the two strong economies in the region, might be considered less important or relevant compared to the EU by the French media. When the UK tends to look at the German and French economy, France looks at the economy in the EU as a whole.

Based on the information in Table 3.3, I construct spatial reference points for each election in each country. For robustness purposes, I create three spatial reference points. The first spatial reference point is the one which appears the most in one's own domestic media. Thus it is the same country that comes to the Rank 1 category in Table 3.3. It is also possible that two or three countries, such as X, Y, and Z, mostly appear in country A's domestic media. In this case, they are jointly considered as reference points for country A.

The second reference point is constructed by the information of the first two countries in the ranking, and the third reference point is based on the information of the top three countries. I use the economic indicators from the rank 1 country for the first spatial reference point. Regarding joint spatial reference points, I used the average of economic indicators from rank 1 and rank 2 for the second reference point, and the average values of economic indicators from all countries in ranks 1, 2, and 3.[2]

[2]In further study, I will use one spatial reference point using different construction methods. For instance, if country X dominates the domestic media coverage of country, then I guess it is good to believe that country X is the single most relevant spatial reference point for country A. If the proportion of country X and Y in A's media is not that different, then it will be more reasonable to use both X and Y rather than using X only. When X, Y, and X have equal with small margin proportion in A's news media, then X, Y, and Z should be equally considered for an potential spatial reference points.

Chapter 4

The Effect of Relative Economy on Vote Choice

In this chapter, I develop and test a model of the effect of relative economy on aggregate-level support for incumbent parties by using a unique spatial reference point. In doing so, I replicate Kayser and Peress (2012) to test the benchmarking hypothesis. In their aggregate-level analysis in equation (1), they include Local economic indicators (growth and unemployment), which is the difference between one's own economy and the international component (benchmarked growth and unemployment), and the Global economic indicator, which is the international component.

$$Government\,Vote_{it} = \alpha + \beta_1 LcoalEconomy_{it-1} + \beta_2 GlobalEconomy_{it-1} + \varepsilon_{it} \qquad (1)$$

With this model, Kayser and Peress (2012: 668) propose several expectations: 1) If the coefficient of *Local Economy* (β_1) is positive and the coefficient of *Global Economy*

(β_2) is zero, this means that voters fully benchmark, 2) if both the coefficients of *Local Economy* (β_1) and *Global Economy* (β_2) are zero, this indicates that voters do not benchmark, and 3) if the coefficient of *Local Economy* (β_1) is greater than that of *Global Economy* (β_2), this suggests a partial benchmark, meaning that some people benchmark and others do not.

Previous studies suggest that people tend to use spatial reference points if temporal reference points are not available (James and John 2007; Kayser and Peress 2012; Hibbs et al. 1982). However, recent scholarship finds that, regardless of availability of the temporal referenced-based information, spatial reference points offer useful information for comparative assessments (Moore 2007; Olsen 2017; Kayser and Peress 2012).

Salmon (1987) argues that temporal comparisons are likely to be biased by a noisy temporal reference because exogenous disturbances such as business cycles, shocks, and long-run trends weaken the stability of temporal comparison (Olsen 2017). In his experimental research, Olsen (2017) demonstrates the stronger tendency of using spatial comparisons in citizen performance evaluation mechanism. Similarly, Hansen et al. (2015) find that people tend to rely on spatial reference points as a means for comparison even though temporal reference-based information was given to them.

Following this logic, I test to see if voters rely on temporal reference points ('historical' reference point in Olsen (2017)) or if they tend to use spatial reference points ('social' reference point in Olsen). To do this, I use two separate models—equation (2) tests the effect of economy using the temporal reference point (*National Economy*), whereas equation (3) tests the effect of the economy using the spatial reference point (*Local Economy*). From these models, I expect to see a bigger coefficient in *Local*

Economy than *National Economy*. When β_2 is greater than β_1, we conclude that the spatial comparison is more pronounced than the temporal comparison in voters minds.

$$Government\ Vote_{it} = \alpha + \beta_1 NationalEconomy_{it-1} + \varepsilon_{it} \tag{2}$$

$$Government\ Vote_{it} = \alpha + \beta_2 LocalEconomy_{it-1} + \varepsilon_{it} \tag{3}$$

Finally, the literature on the economic vote is replete with studies that find that institutional and political contexts affect the influence of the economy on vote choice. For instance, Powell and Whitten (1993) show that clarity of responsibility conditions economic voting. Voters cannot hold their governments accountable according to national economic policy performance if responsibility for policy making is not clearly linked to the incumbents.

Coalitions government, minority government status, and bicameralism blur clarity of responsibility, and, as a result, make voters less certain in identifying the target of electoral reward or punishment. To verify this conditional hypothesis, I test the equations by including an interaction term between *Clarity of Responsibility* and the economy. To further test whether the conditional effect of *Clarity of Responsibility (COR)* varies across different types of comparisons (either spatial- or temporal-based), I regress two separate models using the benchmarked economy (spatial) and the non-benchmarked economy (temporal). I further account for serial dynamic of the vote share function by including LDVs and other rival explanations by adding several control variables. To deal with the threat of unit specific error in the composite error term, I use Fixed Effects except models with LDVs due to the exogenous assumption (Wooldridge 2013).

$$Government\ Vote_{it} = \alpha + \beta_0 LDV + \beta_1 NationalEconomy_{it-1} + \beta_2 COR_{it-1} + \beta_3 NationalEconomy_{it-1} \times COR_{it-1} + Controls + \varepsilon_{it} \quad (4)$$

$$Government\ Vote_{it} = \alpha + \beta_0 LDV + \beta_1 LocalEconomy_{it-1} + \beta_2 COR_{it-1} + \beta_3 LocalEconomy_{it-1} \times COR_{it-1} + Controls + \varepsilon_{it} \quad (5)$$

4.1 Research Design

Data

To test above-stated hypotheses, I assembled information on the electoral outcome of governments in 33 democracies, mostly the member of Ogranization for Economic Co-operation and Development (OECD) except Bulgaria, Romania, and Cyprus . The scope of the data restricts itself to the countries for which electoral results and media information is available in the ParlGov dataset (Döring and Manow 2012).

The geographical focus is on the European democracies, with the addition of Australia, New Zealand, and Japan. Because one of the main goals of this research is to test relative economic voting using the media-coverage-based spatial reference points, the time dimension of the dataset is heavily restricted to data availability in the Lexis-Nexis database. All in all, the data contains information on 179 elections in 30 countries since the 1980s.

Outcome Variables

The main outcome variable, government vote, is measured as the percentage of votes received by the incumbent party. In case of a coalition government, I use the percentage of votes earned by the executive party as the dependent variable. The choice of using an executive parity's vote share is guided by previous studies.

Scholars argue that citizens do not reward or punish all parties in a government in the same way (Anderson 1995), but they tend to hold the executive party accountable (Stevenson 1997). This is because voters perceive competence to make a decision of party support, and to do so they consider each party's amount of responsibility and role in economic policy performance (Nadeau 1996). Consequently, they are likely to blame or praise the prime minister's party for economic conditions in parliamentary systems (Lewis-Beck 1997). For robustness, however, I also use the government parties' vote share by summing the vote share of all parties that were part of the government coalition before the election.

Explanatory Variables

The main explanatory variables are GDP growth rate and unemployment rate[1]. For temporal comparisons, I use one year lagged values of these economic indicators. For spatial comparisons, I follow Kayser and Peress' (2012) basic idea of creating a local and global component. The local component is the difference between a country's own economy and the international economy, indicating benchmarked economy. The global component indicates the international economy, which is the economic conditions of the spatial points.

[1]I obtained information on the GDP growth rate from Conference Board (2014), and information of unemployment rate from IMF. The Conference Board dataset allows us to go back further in time than the World Bank data, and has previously been used to examine the impact of the economy on electoral outcomes (Bischoff 2013; Dassonneville and Lewis-Beck 2014 and 2017). It is strongly correlated with the Bank data. (Pearson correlation is about 0.96.)

The way I construct the local and global component is different from Kayser and Peress (2012) because I focus on media-coverage-based spatial points. As explained in the data collection section, I use three types of spatial reference points. Using these three spatial reference points, I create three versions of local components and global components. The global components are straightforward because they are the value of the economic conditions of the spatial reference points.

Global GDP1 is the GDP growth of the first spatial reference point (which has the highest frequency in one's domestic news reports), the *Global GDP2* is the average GDP growth of the first two spatial reference points out of the 6-scaled ranking, and finally, the *Global GDP3* is the average GDP growth of the first three spatial reference points from the ranking. The global components for unemployment (*Global UNE1, Global UNE2, Global UNE3*) are constructed based on the same rule. I then generate three versions of local components by calculating the difference between one's own economy and that of the global component. For instance, country A's local component in a given election is calculated as follow: Local GDP1 = A's Growth – A's Global GDP1, Local GDP2 = A's Growth – A's Global GDP2, and Local GDP3 = A's Growth – A's Global GDP3. Again, the local components for unemployment follow the same calculation methods.

Clarity of Responsibility and Other Control Variables

To control for *Clarity of Responsibility*, I follow Dassonneville and Lewis-Beck (2017) because each component of their cumulative measure is theoretically-defined, and reflect the concept of clarity of responsibility, which eventually increase *content validity*.

They propose two dimensions of clarity of responsibility and come up with two different measures of it—*Institutional Rules and Power Rules.* The former captures static institutional settings, whereas the latter focuses on dynamic political settings. Because several studies find that the static Institutional Rule has no conditioning effects to the economy on vote choice (Hobelt et al. 2013, Dassonneville and Lewis-Beck 2017; Park et al. forthcoming), I only include the dynamic variable of clarity of responsibility, the *Power Rules*. According to Dassonneville and Lewis-Beck (2017), the *Power Rules* consist of five elements.

First, the difference between coalition and single-party governments is consistently understood as important in regards to clarity of responsibility (Powell 2000). Second, they include the indicator dividing majority and minority governments. Given that the first type has more freedom to pursue policies, majority governments will increase clarity of responsibility. Third, they include an indicator of the effective number of parties, albeit the existence of available alternatives is important, a more fragmented party system tends to confuse the electorate, making it difficult to identify a clear alternative to the governing parties (Anderson 2000).

Too many available options will blur a viable option. The fourth indicator relates to the openness of the economy, with the expectation that in more globalized economies responsibility will be less clear due to limited policy space to maneuver (Duch and Stevenson 2010; Hellwig and Samuels 2007). Finally, they include a measure of the length of time the incumbent has been in office, as more time in power will increase voters' understanding of who to hold responsible.

Dassonneville and Lewis-Beck (2017) obtained information on each of the elements from various objective data sources as well. Data on *single-party government*, *majority government*, and *stable cabinet* is provided by ParlGOV (Döring and Manow 2012).

The *stable cabinet* is measured as the length of time the government has been in office (expressed in years). Gallagher's dataset (2015) is the source of information on effective number of parties (ENEP). Following Fernández-Albertos (2006), *closed economy* is measured as the sum of a country's exports and imports (expressed as % of GDP and obtained from the World Bank's dataset).

Following Kayser and Peress (2012), I also control for coalition size, the population of the country, and a time trend. Larger governing coalitions are expected to lead to smaller vote shares for the government. I gather information on *Coalition Size* from Gallagher (2015). The *Population* variable controls for the size of a country. The larger the country is, the more challenges to opposition groups, and thus a larger vote share for the incumbent (Kayser and Peress 2012). I collect data on the size of *Population* (in 1000's and logged) from Gleditsch (2002). The *Year* dummy variables allow for a time trend.

4.2 Results and Analysis

Based on Kayser and Peress' (2012) identification strategy in their aggregate-level analysis, I first test whether voters respond to economic outcomes relative to those of their spatial reference points. In case the relative economic outcomes matters for electoral fortunes of incumbents, I also examine whether voters' evaluations are based on full or partial benchmarking by including both local and global components. Based on proposed hypotheses, I expect to see positive and statistically significant relationships between the relative economy and incumbent vote share.

Table 4.1 presents the effect of benchmarking on economic voting using the executive party's vote share as the dependent variable. The *Local GDP* and *Local Unemployment* are the benchmarked GDP growth and unemployment rate against each of three spatial Reference Points (PR1, RP2, RP3). *Global GDP* and *Global Unemployment* are the GDP and unemployment rate of the three spatial reference points. Each column in the table employs each of the RPs to test my benchmarking hypotheses.

Table 4.1: The Effect of Benchmarking in the Economic Vote using Executive Party Vote Share

	(1) Reference Point 1	(2) Reference Point 2	(3) Reference Point 3
Local GDP	0.549**	0.560**	0.344
	(0.271)	(0.277)	(0.340)
Global GDP	-0.166	-0.163	-0.082
	(0.402)	(0.406)	(0.472)
Local Unemployment	-0.744***	-0.820***	-0.807***
	(0.218)	(0.277)	(0.253)
Global Unemployment	-0.195	-0.329	-0.395
	(0.243)	(0.444)	(0.529)
Constant	30.92***	32.07***	32.33***
	(2.613)	(4.223)	(4.863)
R^2	0.154	0.133	0.102
Elections	158	157	155
Countries	29	29	29
Fixed Effects	√	√	√

Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results in the first two models (1 and 2) indicate that voters do benchmark on economic growth. Based on the first two reference points (RP1 and RP2), I find that benchmarked growth has a positive and statistically significant effect, whereas the global growth does not reach the conventional significance level. This finding is in line with Kayser and Peress (2012) in that the significant coefficient of *Local GDP* and the insignificant coefficient of *Global* support the 'full' benchmarking story. In other words, voters hold their incumbent accountable according to their country's deviation from the their spatial reference points, but not according to the spatial reference points themselves.

Table 4.1 also demonstrates that voters benchmark on unemployment. In all three models, the local component of unemployment appears to have a statistically significant and negative effect on an executive party's vote share. However, the effects of the global component of unemployment are not statistically different from zero in all models. The results suggest that voters tend to punish their elected officers if their countries' unemployment conditions worse than those of other countries, but they do not respond to other countries' unemployment information itself.

They also fully, not partially, benchmark on unemployment rate. Surprisingly, this finding is not consistent with Kayser and Peress' (2012) outcome. In their aggregate-level analysis, both the local and global components of unemployment fail to reach the conventional significance levels, which led them to conclude that voters do not seem to benchmark on unemployment (669).

Using all parties' vote share in the government, Table 4.2 presents similar results. *Local GDP* has a positive and statistically significant effect on the governing parties' electoral performance, whereas *Global GDP* has statistically insignificant effect. The relationships between *Local Unemployment* and governing parties' vote share are negative, as expected, and they are statistically significant across all three models. However, there is no similar effect of *Global Unemployment* on incumbents' vote share. In general, the findings in both Table 4.1 and Table 4.2 are consistent with

Table 4.2: The Effect of Benchmarking in the Economic Vote using Government Parties' Vote Share

	(1) Reference Point 1	(2) Reference Point 2	(3) Reference Point 3
Local GDP	0.615*	0.560*	0.427
	(0.240)	(0.288)	(0.345)
Global GDP	-0.374	-0.430	-0.397
	(0.406)	(0.354)	(0.462)
Local Unemployment	-0.439*	-0.642**	-0.635**
	(0.220)	(0.243)	(0.245)
Global Unemployment	-0.384	-0.271	-0.206
	(0.304)	(0.545)	(0.771)
Constant	44.52***	43.63***	43.00***
	(2.659)	(4.674)	(6.637)
R^2	0.071	0.078	0.053
Elections	174	173	171
Countries	30	30	30
Fixed Effects	√	√	√

Roust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

benchmarking, and are clearly inconsistent with no benchmarking.

Since the models in the previous tables are fairly naive specifications, I account for several rival explanations based on previous studies. I add previous vote shares (LDVs), rendering the models dynamic. This is based on the belief that today's vote share is not independent from previous vote shares, instead it is highly likely that today's votes are heavily contingent upon those of the previous election. As explained in the model specification section, I add the number of parties, coalition size, population, and a time trend dummy. The selection of these variables are guided by Kayser and Peress (2012: 670).

Table 4.3 presents the results of the full models. In first three models (1, 2, and 3), I use executive party's vote share as the DV, and all governing parties' for the last three models (4, 5, and 6). Due to the presence of LDV, I did not use Fixed Effects because this violates strict exogeneity, which produces a biased estimation (Wooldridge 2013). Regarding the growth variable, the main finding is robust in models with executive party vote share.

In all three models (1, 2, and 3), *Local GDP* has a positive and statistically significant effect, whereas *Global GDP* has no effect. It seems that voters do fully benchmark on growth when they decide a vote choice for the executive party even after controlling for other variables. However, this finding is not robust in the models with government parties' vote share (4, 5, and 6). Although the signs of the local growth component are positive as expected, their effects are not statistically different from zero. This finding suggests that voters do not always reward/punish all parties in a coalition in the same way. Instead, voters consider each party's degree of responsibility, so they tend to blame or praise the prime minister' party (Lewis-Beck 1997)

Table 4.3: The Effect of Benchmarking in the Economic Vote with controls

	Executive Party			Government Parties		
	(1) RP 1	(2) RP 2	(3) RP 3	(4) RP 1	(5) RP 2	(6) RP 3
LDV	0.156***	0.097***	0.096***	0.619***	0.589***	0.606***
	(0.139)	(0.035)	(0.032)	(0.010)	(0.106)	(0.106)
Local GDP	0.531***	0.591***	0.523**	0.292	0.303	0.263
	(0.194)	(0.162)	(0.207)	(0.287)	(0.273)	(0.327)
Global GDP	-0.182	-0.296	-0.325	-0.187	-0.234	-0.197
	(0.234)	(0.246)	(0.324)	(0.282)	(0.250)	(0.331)
Local Unemployment	-0.570***	-0.547***	-0.575***	-0.547**	-0.616**	-0.616**
	(0.184)	(0.187)	(0.183)	(0.264)	(0.254)	(0.259)
Global Unemployment	-0.589***	-0.837***	-0.783***	0.0531	0.0771	(0.259)
	(0.199)	(0.208)	(0.208)	(0.301)	(0.388)	(0.471)
Effective Number of Party	-4.080***	-3.893***	-4.048***	-3.528***	-3.551***	-3.670***
	(0.500)	(0.522)	(0.522)	(0.549)	(0.506)	(0.534)
Population(log)	0.524	0.319	0.353	-0.778	-0.945	-1.126*
	(0.488)	(0.500)	(0.482)	(0.534)	(0.585)	(0.637)
Coalition Size	0.257	-0.373	-0.221	5.250***	5.155***	5.081***
	(0.979)	(0.946)	(0.941)	(1.166)	(1.139)	(1.128)
Year	-0.178	-0.224**	-0.242*	-0.171	-0.234**	-0.197
	(0.121)	(0.106)	(0.125)	(0.123)	(0.108)	(0.128)
Constant	399.6	497.8**	534.4**	366.0	495.2**	422.0
	(243.6)	(214.0)	(252.2)	(247.1)	(215.7)	(257.8)
R^2	0.478	0.491	0.480	0.463	0.461	0.453
Elections	139	138	136	152	151	149
Countries	29	29	29	30	30	30
Fixed Effects	-	-	-	-	-	-

RP represents Reference Point. Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

or party which the minister of economy and finance belongs to (Williams et al. 2016).

The results of the local unemployment components are robust. The coefficients of *Local Unemployment* are negative, and have a statistically significant effect across all models. But surprisingly, the global components of unemployment appear to have a statistically significant effect on executive party's vote share, but not on the government parties as a whole. Thus the main findings are partially robust when I control for the rival factors.

Regarding the control variables, the *Effective Number of Party* shows a negative and statistically significant effect in all six models, whereas other variables reach the conventional significance levels across different models. One noticeable point is that the effect of *Coalition Size* is statistically significant but the sign is positive, contrary to theory.

For robustness, I estimate the full models using Fixed Effects without LDVs. Table 4.4 presents the results and, like Table 4.3, uses executive party's vote share as the DV in model 1 – 3 and all governing parties' vote share in model 4 – 6. The results of *Local GDP* and *Global GDP* are consistent with the main findings in the basic models (Table 4.1 and Table 4.2). Incumbents (both executive party and all governing parties) tend to be not punished if their growth performed less abysmally than their reference countries. Voters are not affected by other countries' growth information itself, but affected by deviation of their own countries' growth from others'. Again, this implies that voters fully benchmark on economic growth.

However, instability exists in the coefficients of the unemployment variables. First, as the first three models show, voters respond to both local and global components of unemployment. By contrast, it seems that unemployment rate relative to those

Table 4.4: The Effect of Benchmarking in the Economic Vote with FEs

	Executive Party			Government Parties		
	(1) RP 1	(2) RP 2	(3) RP 3	(4) RP 1	(5) RP 2	(6) RP 3
Local GDP	0.436*	0.503***	0.411**	0.603**	0.573**	0.523
	(0.222)	(0.132)	(0.193)	(0.293)	(0.233)	(0.317)
Global GDP	-0.137	-0.262	-0.299	-0.246	-0.345	-0.382
	(0.225)	(0.239)	(0.308)	(0.243)	(0.234)	(0.310)
Local Unemployment	-0.734***	-0.790***	-0.834***	-0.274	-0.463	-0.516
	(0.237)	(0.235)	(0.238)	(0.361)	(0.287)	(0.327)
Global Unemployment	-0.507*	-0.869**	-0.796*	0.0564	-0.0603	0.238
	(0.283)	(0.345)	(0.406)	(0.353)	(0.538)	(0.652)
Effective Number of Party	-4.966***	-5.027***	-5.106***	-4.922***	-4.894***	-5.124***
	(0.656)	(0.575)	(0.550)	(1.072)	(0.972)	(0.997)
Population(log)	-8.228	-1.966	-3.822	-15.16	-8.457	-11.97
	(18.88)	(15.71)	(16.89)	(37.25)	(30.67)	(33.30)
Coalition Size	-0.419	-0.851	-0.875	6.483***	6.219***	6.173***
	(0.967)	(0.993)	(0.983)	(1.472)	(1.424)	(1.427)
Year	-0.198	-0.291*	-0.280	-0.163	-0.276	-0.250
	(0.183)	(0.154)	(0.183)	(0.274)	(0.230)	(0.264)
Constant	533.0*	664.3***	659.0**	517.8*	682.9***	663.4**
	(272.3)	(236.8)	(279.9)	(277.2)	(236.5)	(284.8)
R^2	0.477	0.496	0.482	0.370	0.375	0.364
Elections	139	138	136	152	151	149
Countries	29	29	29	30	30	30
Fixed Effects	√	√	√	√	√	√

RP represents Reference Point. Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

abroad does not matter for citizens' vote choice because the coefficients of *Local Unemployment* are, albeit negative, statistically insignificant in models 4 – 6, with Fixed Effects estimation.

Spatial vs. Temporal Benchmarking

Conventional wisdom on the economic vote predicts that a good economy, measured relative to the prior year or period, helps incumbents whereas a bad one hurts them. However, my benchmarking hypothesis predicts that voters do not react to their economy regardless of whether their economy out- or under-performed those abroad, but they do so according to the deviation of their own economies from their spatial references. To which measures of the economy are voters sensitive? It is obvious that voters do compare their economy, but we have been less informed abut "where to look for comparisons?"

Olsen (2017) develops an experimental research design and tests whether respondents rely on one reference point more than the other. Although his novel approach confirms that voters are more sensitive to spatial comparisons (comparing one's own performance with others) than temporal comparisons (comparing one's own performance to that of previous period), a cross-national verification, especially in the economic voting literature, has not been made to conclude that, in general, voters tend to look to other countries more than previous years in their own for comparisons on economic performance. To that end, I estimate models using (spatial-) benchmarking and models using (temporal-) benchmarking. After that, I compare the size of the effect of each of the measures to answer above questions of 'where to look between time and space?' The proposed expectation is that the spatially benchmarked economy will have stronger effect on incumbent vote share than the temporally benchmarked economy.

Table 4.5: The Effect of Benchmarked vs Non-Benchmarked Economy

	Spatial Comparison		Temporal Comparison	
	(1) Executive party	(2) Government	(3) Executive party	(4) Government
Local GDP	0.583**	0.693**		
	(0.247)	(0.305)		
Local Unemployment	-0.669***	-0.272		
	(0.209)	(0.224)		
National GDP			0.229	0.151
			(0.385)	(0.386)
National Unemployment			-0.584**	-0.316
			(0.225)	(0.262)
Constant	28.89***	40.40***	33.34***	42.76***
	(0.0430)	(0.0538)	(2.047)	(2.179)
R^2	0.149	0.057	0.070	0.014
Elections	158	174	159	175
Countries	29	30	29	30
Fixed Effects	√	√	√	√

Local GDP and Local Unemployment are calculated by using Reference Point 1 (RP1).
Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4.5 presents the effect of spatial and temporal comparisons of the economy. Again the *Local* components are spatially benchmarked measures of the economy (using the first reference point, RP1), whereas the *National* components are temporally compared economic indicators. Model 1 and 3 use executive party's vote share and Model 2 and 4 use government parties' vote share as their DV.

Spatially benchmarked economies (*Local GDP* and *Local Unemployment*) have a statistically significant effect on both of the DVs. Spatially benchmarked economic growth increases incumbent vote share by about 6% to 7%. Spatially compared unemployment reduces incumbent vote share by about 6.5% and 2.7%, albeit the latter is statistically insignificant.

Surprisingly, the temporally compared economy growth, contrary to conventional wisdom, appear to have no effect on incumbents' vote share although the signs meet our expectation. If one's unemployment rate increases as compared to that of previous period, then it seems that the executive party loses their votes by about 5.8%, but not for the government parties as a whole. Indeed the results are consistent with Olsen (2017), suggesting that voters are likely look to how other countries' economies are doing rather than look to how their own economy was doing to make an informed decision at the polls. In Chapter 5, I provide further investigation on how the temporal and spatial reference points play an interactive role in voters' evaluations mechanism.

Benchmarking and Clarity of Responsibility

In order for voters to reward or punish based on economic outcomes, they should be able to tell who is responsible. Previous studies found that institutional and political arrangements affect a voter's ability to identify who is responsible, and as a result, affect the economic vote. In countries where policymaking responsibility is clear, the economy has a stronger effect on a vote choice, whereas in countries where the responsibility is burred, the economy has a weak or no effect to voters' decision (Powell and Whitten 1993).

Following this line of logic, I test whether the benchmarking hypothesis is affected by the level of clarity of responsibility. And, if so, how its impact differs from non-benchmarked (national economy) cases. To test this conditioning hypothesis, I include an interaction term of *Local GDP* and *Clarity of Responsibility (COR).* I also test the traditional clarity of responsibility argument by interacting the *COR* with *National GDP*. The former tests clarity of responsibility's effect on benchmarked economy, and the latter is for non-benchmarked cases. Following Kayser and Peress (2012), I also control for non-benchmarked unemployment in all models to strengthen the comparison of benchmarked and non-benchmarked growth.

Table 4.6 demonstrates the results of the effect of benchmarked and non-benchmarked economy across clarity of responsibility. The interaction coefficients of benchmarked from model 1 – 3 are statistically insignificant, but that of non-benchmarked reaches 95% significance levels. Thus there is no statistically significant interactive effect with benchmarked economy, whereas there is a statistically significant interactive effect with non-benchmarked (p-value $< .001$).

It is hard, however, to draw a direct interpretation of the impact of the economy on vote share conditional on clarity of responsibility. This is because the significance level of coefficients does not reveal anything when interpreting interaction terms between continuous variables (Berry et al. 2012; Brambor, Clark, and Golder 2006). For better interpretation of the effect of two continuous variables, it is suggested to use marginal effects graph merely with the coefficients and significance of the interaction terms (Berry et al. 2012; Brambor et al. 2006).

Figure 4.1 presents the marginal effects graph showing the degree to which the level of clarity of responsibility conditions the effect of benchmarked and non-benchmarked growth on executive party's election outcomes. The shaded area shows the 90% confidence intervals. The sub-figures (a), (b), and (c) are the marginal effect graphs of benchmarked growth using RP1, RP2, and RP3 respectively. The sub-figure (d) shows the marginal effect graph of non-benchmarked growth. In each sub-figure, the

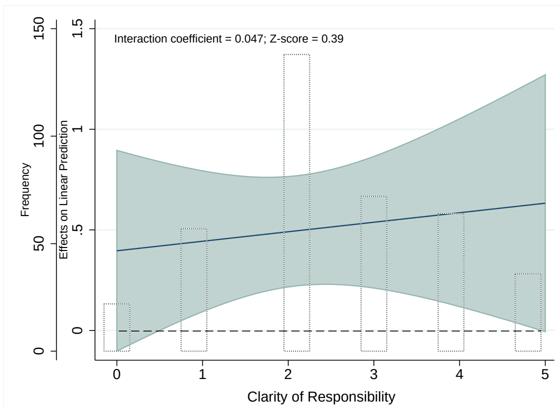
Table 4.6: The Effect of Benchmarked vs Non-Benchmarked Economy conditioned by Clarity of Responsibility

	Benchmarked			Non-Benchmarked
	(1) RP 1	(2) RP 2	(3) RP 3	(4) National
LDV	0.125***	0.126***	0.123***	0.099***
	(0.041)	(0.038)	(0.039)	(0.035)
Local GDP	0.396	0.379	0.157	
	(0.303)	(0.276)	(0.404)	
Clarity of Responsibility (COR)	0.111	0.075	-0.022	-0.523
	(0.635)	(0.645)	(0.645)	(0.617)
Local GDP $\times$ COR	0.047	0.107	0.176	
	(0.121)	(0.114)	(0.143)	
National GDP				-0.326**
				(0.139)
National GDP $\times$ COR				0.285***
				(0.089)
National Unemployment	-0.538***	-0.544***	-0.533***	-0.558***
	(0.148)	(0.152)	(0.147)	(0.149)
Effective Number of Party	-4.058***	-3.976***	-4.044***	-3.853***
	(0.583)	(0.590)	(0.595)	(0.556)
Population(log)	0.313	0.326	0.275	0.201
	(0.513)	(0.541)	(0.527)	(0.554)
Coalition Size	0.053	-0.040	-0.006	-0.248
	(0.882)	(0.892)	(0.911)	(0.901)
Year	-0.205*	-0.211**	-0.233**	-0.201*
	(0.110)	(0.101)	(0.110)	(0.110)
Constant	457.0*	468.1**	513.9**	452.2*
	(224.9)	(207.1)	(223.3)	(222.1)
R^2	0.492	0.459	0.490	0.496
Elections	137	137	137	137
Countries	29	29	29	20
Fixed Effects	-	-	-	-

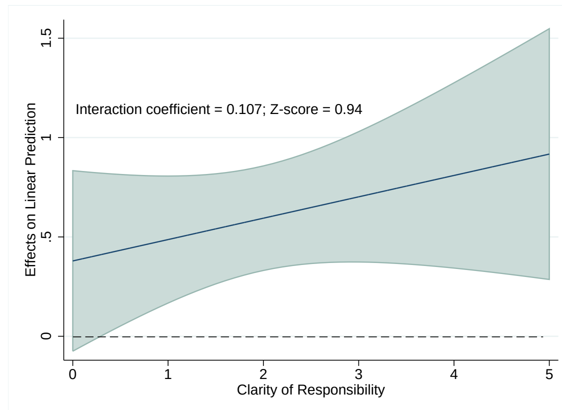
RP represents Reference Point, and National represents one's own economy.
DV is the executive party's vote share. Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 4.1: The Effect of Economic Growth on Executive Party's Vote Share (90% CI)

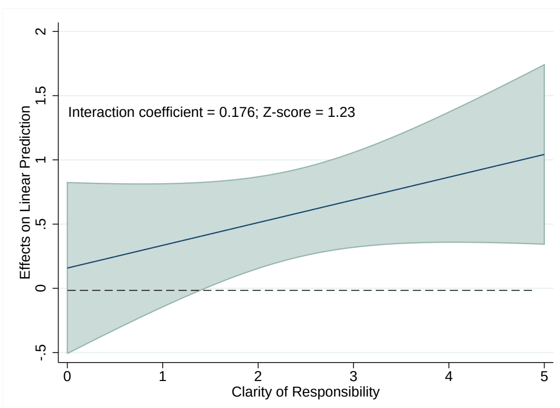
(a) Benchmarked (RP1)



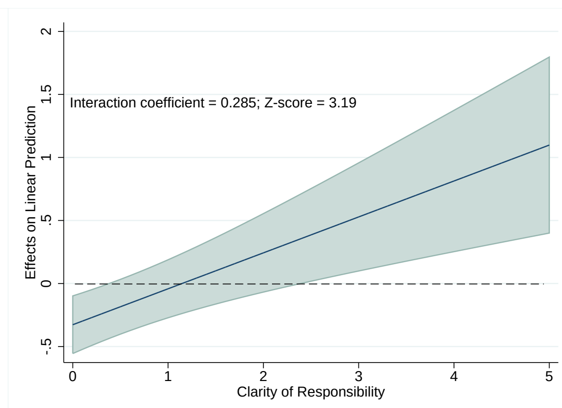
(b) Benchmarked (RP2)



(c) Benchmarked (RP3)



(d) Non-Benchmarked



x-axis present the levels of clarity of responsibility, ranging from 0 (low level of COR) to 5 (high level of COR), and the y-axis the marginal effect of growth on DV. The outer y-axis and the bar graph in sub-figure (a) present the distribution of *Clarity of Responsibility*[2].

One noticeable point is that in all sub-figures, we observe the upward slopes, suggesting there tends to be a larger effect of the growth on vote share as the level

[2]For simplicity, I include the distribution of *Clarity of Responsibility* in sub-figure (a) only.

of clarity of increases. This general pattern is consistent with conventional wisdom in that voters hold incumbents accountable where clarity of responsibility is high. Comparing the magnitude of COR's conditioning effect, it is obvious that the effect of non-benchmarked growth is strongly influenced by the clarity of responsibility (sub-figure (d)). Its marginal effect of growth has the steepest slope among all sub-figures and their 90% confidence intervals (CIs) do not overlap each other at their lower and higher bound. As shown in sub-figure (d), non-benchmarked economic growth will have a positive effect when the level of the clarity of responsibility exceeds around 2.5 point, and its positive effect tends to be stronger when the responsibility becomes more clearer. So if one's economic growth rate is good compared to previous years', it will help the executive party's electoral fortune. This is only possible when voters can discern who is responsible for the policy making.

The conditioning effect of the clarity of responsibility, however, is rather inconclusive for the benchmarked growth measure, although the upward slopes are apparent. In particular, most of the 90% CIs do not contain *zero* with small exceptions at the left-end of x-axis in sub-figure (a) and (b). Unlike the null effect of non-benchmarked growth under lower levels of COR (below 2.5), this implies that the positive marginal effects of benchmarked growth still exists even at the lower levels of COR.

Put differently, the role of clarity of responsibility is strong enough in making the slopes upward heading, but it is not strong as to make the effect of benchmarked growth vanish. Thus if your economic growth is better than other countries', you are likely to reward the executive party at the polls regardless of whether you can tell who is responsible for policy making. The sub-figure (c) is somewhat in between these two cases. It shows that clarity of responsibility makes the effect of non-benchmarked economy pronounced at its higher levels and makes the effect disappear below 1.5.

4.3 Discussion

This chapter tests the effects of the relative economy (benchmarked) on vote choice. The theoretical expectation was that voters tend to respond to relative economic performance when they make a vote choice—relative economic performance helps voters extract incumbent 'competence signals' from observed economy by giving a heuristic shortcut for performance evaluations. Voters reward their incumbents for an over-performing economy, but punish them for an under-performing one. Indeed, recent empirical work have begun to pay more attentions to the effect of relative economy on vote choice (Kayser and Peress 2012; Hansen et al. 2015; Jerome et al. 2001; Fortunato et al. 2018). Previous studies provide useful information about the role of economy on vote choice, but most of them are based on small N analyses (Jerome et al. 2001; Hansen et al. 2015) or large N, but within a single country (Fortunato et al. 2018). Kayser and Peress (2012) first show the cross-country verification for the effect of the benchmarked economy.

One daunting task in a cross-country sample is to select an appropriate reference point, not only per country but also per election. As Kayser and Peress (2012) acknowledge, having a universal spatial reference point for all observations make little sense in the real world because it forces us to assume that all countries are equally affected by the sample reference point. Not only is it unrealistic but causes bias in empirical estimation. Kayser and Peress (2012) suggest 'principal components' to select a proper reference point and argue it has the advantage of capturing international and regional economic covariation with other economies, depending solely on their integration into the world economy.

Rather than capturing the sensitivity of a country toward the global economy, I argue that it is also doubtful if the 'principal components' can function as the best reference point. I argue that the best reference points should be based on various factors encompassing social, political, historical, and cultural elements, which provide good grounds for the spatial reference points such as 'Similarity, Familiarity and Connectivity' (Yocke and Kruml 2009).

I suggest that media coverage can assist us in finding the appropriate reference point by priming and reflecting public opinion. In other words, the media tend to focus on what citizen focus and vice versa. Moreover, the media may assign a portion of its coverage to a country based on to what extent the country shares historical, political, cultural, and economic relationships. Thus, the frequency of media coverage inform us with which country or countries the voters are likely to compare.

Based on the media-guided spatial reference points, this chapter shows that a relatively good economy helps executive and all governing parties' vote share. The findings appeared robust and stable even accounting for various rival explanations. The direct comparison between the temporal and spatial reference point reinforced the spatially benchmarked argument.

The traditional measure of the economy (relying on temporal reference point) shows weak and statistically insignificant results, whereas the effect of the spatially benchmarked growth variable (*Local GDP*) consistent and robust. The conditioning effect of clarity of responsibility was also correlated with temporally benchmarked economy, suggesting the role of economy becomes weak when it is unclear who is responsible for the economic policy outcomes. However, the conditioning effect of the clarity of responsibility was weak for spatially benchmarked economy, suggesting voters tend to reward/punish their incumbent according to relative economic performance regardless the levels of clarity of responsibility. In sum, it is confirmed that *voters evaluate national economy relative to those obtained by other countries and make vote choice accordingly.*

Chapter 5

Is the Effect of Relative Economy on Vote Choice Constant?

Much of the scholarship on economic voting has used measures of the level of or changes in domestic macroeconomic indicators (Stegmaier and Lewis-Beck 2013; Stegmaier et al. 2017). However, as we reviewed in the previous chapter, recent scholarship has considered that perhaps voters engage in comparisons much like we do in our daily lives. From several studies (e.g., Kayser and Peress 2012; Hansen et al. 2015; Olsen 2017), including this research, scholars have revealed that citizens cast economic votes by considering how their own country's economy is performing relative to that of their neighbors who are familiar, connected, and similar (so-called spatial reference points).

Is the benchmarking effect invariant? Put differently, do voters always rely on a cross-national yardstick in a similar fashion? If not, when and under what conditions voters tend to benchmark more? In this chapter, I argue that the effect of cross-border benchmarking is not fixed but rather varies according to globalization and one's own domestic economic conditions.

First, I claim that globalization, marked with greater trade openness, enables voters to engage in a benchmarking comparison more actively. With the increased flow of goods, services, capital, labors as well as ideas and news, globalization enriches a great deal of information available to voters. Especially, the media tend to deliver domestic economic news by placing them in a comparative context with other countries, which eventually offer the pre-benchmarked news to the domestic audiences.

Moreover, globalization, by its key feature, makes countries be more interconnected and interdependent. In this web of connectivity, domestic economic conditions may not be completely 'domestic', but they tend to be affected by many of 'non-domestic' factors. Consequently, globalization increases ordinary citizens' awareness about other countries' economic conditions. Based on this discussion, I expect that *as countries' economic globalization increases, the effect of relative growth on incumbents' vote share increases*, and test the following model.

$$\begin{aligned} &Government\ Vote_{it} = \\ &\quad \alpha + \beta_0 LDV + \beta_1 LocalEconomy_{it-1} + \beta_2 Globalization_{it-1} + \beta_3 LocalEconomy_{it-1} \times \\ &\quad Globalization_{it-1} + Controls + \varepsilon_{it} \end{aligned} \tag{6}$$

However, from previous literature, we learn that globalization attenuates the effect of the economic vote (Hellwig and Samuels 2007; Hellwig 2007; Duch and Stevenson 2010). Base on the convergence hypothesis in comparative political economy literature, scholars argue that greater economic interdependence weakens the domestic policy autonomy so that countries have limited space to maneuver in handling with the domestic economic conditions. Furthermore, politicians, who always seek to claim to credit for successes and avoid blame for failures, have reasons to shift blame for poor economic performance to exogenous shocks beyond their control (Hellwig and Samuels 2007). An ample empirical evidence supports this convergence hypothesis in that greater exposures to the world market decreases the effect of the national economy on a vote choice (Kayser 2009; Hellwig 2007; Hellwig and Samuels 2007; Alcaniz and Hellwig 2011).

Although this logic sounds compelling, existing accounts cannot fully reveal the effect of globalization on electoral accountability because scholars have ignored the importance of relative economic performance. Indeed, no existing studies in globalization and the economic vote has used the relative measures of the economy in their empirical analysis. Since we now know that the benchmarked economy has a substantial effect on voting behavior (and sometime more than non-benchmarked one), it is imperative to extend our analysis to see whether economic openness conditions the role of the benchmarked and non-benchmarked economy on a vote choice differently. Thus I test the following model where the *National Economy* denotes the changes in one' own economy. I expect that *as countries' economic globalization increases, the effect of non-benchmarked growth on incumbents' vote share decreases.*

$$Government\ Vote_{it} = \alpha + \beta_0 LDV + \beta_1 NationalEconomy_{it-1} + \beta_2 Globalization_{it-1} + \beta_3 NationalEconomy_{it-1} \times Globalization_{it-1} + Controls + \varepsilon_{it} \tag{7}$$

Second, I argue that the effect of cross-borders benchmarking is also influenced by a country's retrospective economic conditions. In fact, previous studies have implicitly suggested that voters will use one reference, either temporal (non-benchmarked) or spatial (benchmarked), rather than both of them interactively. This is because they have viewed the temporal and spatial reference points as two competing concepts or has assumed that the two are mutually exclusive in citizens' evaluation process.

Duch and Stevenson (2010) argue that voters extract competence signals from comparing variances in economic performance across countries, and Palmer and Whitten (1999) found the opposite so that voters implicitly benchmark but across times rather than across countries, showing that unexpected changes in economic aggregates have a larger effect on the incumbent vote. Kayser and Peress (2012) first explicitly investigate benchmarking of economic performance across borders and find that spatial comparison is more obvious than temporal comparison. Similarly, Olsen (2017) demonstrates the experiment-based results in that people tend to use social (spatial) reference point than historical (temporal) reference point.

However, there is no reason to expect that one reference point would have a stronger effect than the other or that they function independently in voters' minds and make them to arrive at different vote choice. Instead, I argue that voters can use both of the yardsticks as the sources of comparisons, and there may be a certain condition that makes voters depend on one particular yardstick more than the other. More specifically, based on prospect theory, I argue that people are loss-averse so that they become more sensitive to cross-border comparisons when their own national economies are poor, but they tend not to place themselves on a comparative setting with other countries under the auspicious economic conditions (compare to previous period). In other words, the gloomy domestic conditions make people look to their neighbors. With this discussion, I expect that *the effect of cross-border benchmarking on incumbents' vote share increases when the retrospective national economic condition is poor.*

In the next section, I present the research design followed by empirical evidence in the results section.

5.1 Research design

Data

For empirical analyses of above-stated hypotheses, I assembled information on the electoral outcome of incumbents in 33 countries since the 1980s. They are mostly, not all, the member of Organization for Economic Co-operatioin and Development (OECD). The scope of the data restricts itself to the countries and times for which electoral results and media information available in the ParlGov dataset (Döring and Manow 2012). Especially, because I focus on the relative economic voting using the media-coverage-based spatial reference points, the time dimension of the dataset is heavily restricted to the data availability in Lexis-Nexis database.

In case of non-benchmarked economy (such as a country's own economic conditions), I do not need to rely on Lexis-Nexis' availability. This gives wider time spans up to the 1970s. All in all, the data using the benchmarked economy include information on 147 elections from 28 countries since the 1980s. Using non-benchmarked measures, the data contain 247 elections in 33 countries since the 1970s.

Outcome Variables

The main outcome variable, government vote, is measured as the percentage of votes received by an incumbent party. In the case of a coalition government, I use the percentage of votes earned by the executive party (executive party) as the dependent variable. The choice of using an executive parity's vote share is guided by previous studies. Scholars argue that citizens do not reward or punish all parties in a government in the same way (Anderson 1995), but they tend to hold the executive party accountable (Lewis-Beck 1997). This is because voters perceive competence to make a decision of party support, and to do so, they consider each party's amount of responsibility and role of economic policy performance (Nadeau 1996). Consequently, they are likely to blame or praise the prime minister's party for economic conditions in parliamentary systems (Lewis-Beck 1997). For robustness, I also use the government parties' vote share by summing the vote share of all parties that were part of the government coalition before the elections.

Explanatory Variables

The main explanatory variables are GDP growth rate and unemployment rate[1]. For temporal comparisons (non-benchmarked economy), I use the one year lagged values of these economic indicators. For spatial comparisons (benchmarked economy), I create *Local Economy*, for which I subtract the economic indicators of one's spatial reference from one's own indicators. To correctly measure this benchmarked economy, I attempt to identify the best possible spatial points for each election across countries.

This is important because in an empirical model we do not want to force each election and country to compare their economy with a universal reference point. Instead,

[1]I obtained information on the GDP growth rate from Conference Board (2014), and information of unemployment rate from IMF

we observe voters comparing their economy with similar, familiar, and connected other countries' economies in a given election. Using media coverage information from Lexis-Nexis, I obtained the number of news items about a particular economy per country from 12 month prior to an election day. I ranked the top six countries based on the frequency of news item and select three spatial reference points (RP1, RP2, RP3). RP1 is the economy of the first country in the ranking, and RP2 is the average economy between the top 2 countries in the ranking, and the average economy among the top 3 countries, respectively.

The other important variable is *Globalization*. Following previous research, I explore the most important component of economic globalization: trade volume (Hellwig 2001; Scheve 2004; Alesina et al. 1993). Hellwig and Samuels (2007) argue that relying on trade volume has its limitation in capturing the concept of economic globalization. In addition to the values of trade flows, they include capital flows to test the impact of capital market openness on government accountability. While they find statistically significant results for trade, however, the effect of capital flows, albeit consistent with their predictions, appear to have less substantial effect than the effect of trade. Although it is worth accounting for capital openness, data limitation restricts its focus on the trade openness in this research. The trade volume is measured as the sum of country's exports and imports as a percentage of its GDP.

I also control for coalition size, the effective number of parties (*ENEP*), the population of the country, and a time trend. The larger governing coalitions as well as many parties are expected to lead a smaller vote share for the government. I gather information on *Coalition Size* and *Effective Number of Parties* from Gallagher (2015). *Population* variable controls for the size of a country. The larger the country is, the more challenges to opposition groups, and thus the more voe share for the incumbent (Kayser and Peress 2012). I collect data on the size of *Population* (in 1000's and logged) from Gleditsch (2002). The *Year* dummy variables allows for a time trend. Finally, lagged dependent variables (LDV) are also included in some models to control for serial dynamics of the vote share function. In dealing with a threat of unobserved unit specific error in the composite error term, I use Fixed Effects except models with LDVs due to the strict exogeneity assumption (Wooldridge 2013).

5.2 Results and Analysis

Benchmarked Economy and Globalization

How does economic globalization affect the role of economy on incumbents' electoral performance when the economy is compared to foreign countries? To answer this question, I use different measures of the economy: the 'benchmarked' economy (the difference between one's own economy and those of spatial reference points). According to proposed theory, I expect to observe the positive sign of the coefficient of the interaction terms. This will suggest that economic globalization strengthens the linkage between benchmarked economic performance and incumbent electoral fortunes.

Table 5.1 presents regression outcomes. I present four models: the first two models are based on executive party's vote share and the other two models are based on the vote shares of all governing parties. Model 1 and 3 use Fixed Effects estimation, whereas models 2 and 4 include LDVs. Surprisingly, except in model 2, the coefficient of *Local GDP* show the negative sign and none of the coefficients reaches the conventional levels of significance. However, given the fact that the coefficient presents

Table 5.1: The Effect of Benchmarked Growth conditioned by Globalization

	Executive Party		Government Parties	
	(1)	(2)	(3)	(4)
LDV		0.171***		0.628***
		(0.029)		(0.112)
Local GDP	-0.038	0.029	-0.100	-0.204
	(0.473)	(0.326)	(0.643)	(0.386)
Trade (% of GDP)	0.144***	0.053**	0.063	0.006
	(0.050)	(0.248)	(0.066)	(0.023)
Local GDP × Trade (% of GDP)	0.007	0.005	0.009	0.006
	(0.005)	(0.004)	(0.006)	(0.004)
Local Unemployment	-0.706	-0.761**	-0.893	-0.467
	(0.459)	(0.348)	(0.620)	(0.419)
Local Unemployment × Trade (% of GDP)	0.003	0.004	0.007	-0.001
	(0.005)	(0.003)	(0.006)	(0.004)
Effective Number of Party	-4.647***	-4.435***	-4.754***	-3.475***
	(0.668)	(0.508)	(0.911)	(0.548)
Population(log)	9.502	1.786**	-13.29	-0.609
	(17.42)	(0.749)	(23.37)	(0.863)
Coalition Size	0.221	0.612	6.749***	5.091***
	(0.902)	(0.973)	(1.202)	(1.246)
Year	-0.494***	-0.290***	-0.296	-0.197
	(0.148)	(0.112)	(0.199)	(0.138)
Constant	939.2***	602.9***	759.7**	416.6
	(232.5)	(224.0)	(322.2)	(272.2)
R^2	0.503	0.498	0.389	0.483
Elections	134	134	147	147
Countries	28	28	28	28
Fixed Effects	√	-	√	-

Local GDP and Local Unemployment are calculated by using Reference Point 1 (RP1).
Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

the hypothetical values when the value of *Trade* equal to *zero*, it is meaningless to directly interpret the coefficient because none of our sample has a case with a value of *zero* for *Trade*.

More importantly though, the interaction coefficient between *Local GDP* and *Trade* is positive, suggesting that trade openness increases the effect of benchmarked growth on the incumbent vote share. Because it is not possible to directly interpret the impact of the economy on incumbent vote conditional on trade openness from the mere values of coefficient in Table 5.1, plotting the marginal effect of GDP growth for the full range of values on the globalization index provides useful insightful in this regard (Berry et al. 2012; Brambor et al. 2006).

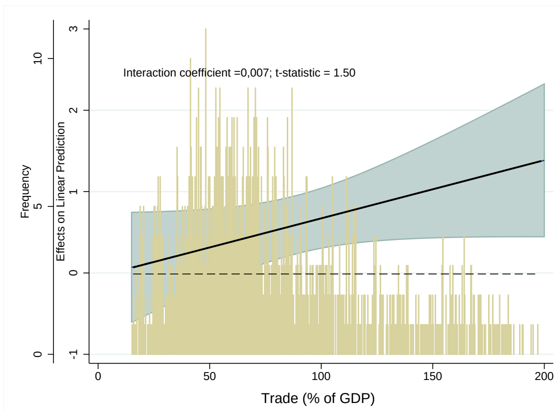
Figure 5.1 better illustrates the degree to which exposure to the world market conditions the effect of benchmarked economy on election outcomes. The shaded area shows the 90% confidence intervals. In each sub-figure, the x-axis presents the levels of trade (% of GDP)and the y-axis the marginal effect of growth on DV. The outer y-axis and the bar graph in sub-figure (a) present the distribution of *Trade*[2]. The upper two sub-figures are based on Fixed Effects estimation and those at the bottom include LDVs. The model of two figures in left hand side use executive party's votes share as DV, and model of the two figures in right hand side use vote share of all governing parties.

One noticeable point across all four figures is that there is a clear and consistent upward heading in the marginal effect plot. This upward movement suggests that economic globalization makes the effect of benchmarked economy stronger. For instance, a 3% increase in *Local GDP* growth increases the government parties' vote share by

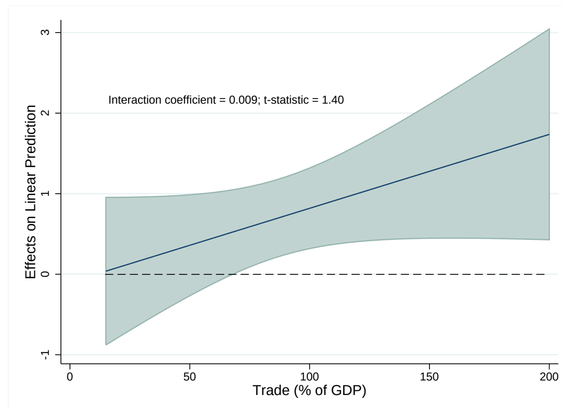
[2]For simplicity, I include the distribution of *Trade* in sub-figure (a) only.

Figure 5.1: The Effect of Benchmarked Growth conditioned by Globalization (90% CI)

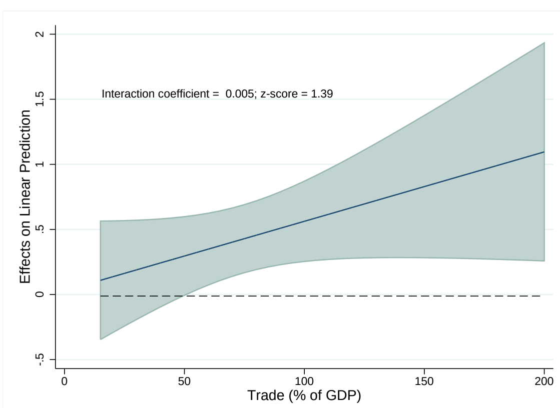
(a) Executive Party (FE)



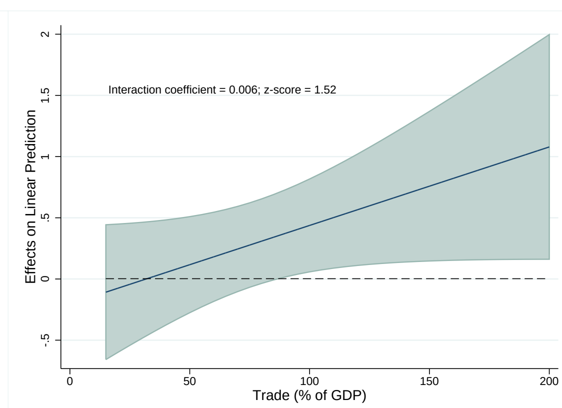
(b) Government Parties (FE)



(c) Executive Party (LDV)



(d) Government Parties (LDV)



5.4% (3 x 1.8) when the trade openness is at its maximum value (*Trade* = 200% of GDP) based on sub-figure (b). But when trade levels reach that of one-half that of GDP (*Trade* = 100% of GDP), a 3% increases in the *Local GDP* growth contributes less than half as much to the incumbents' electoral fortune (3 x 0.8 = 2.4% increase in government parties' vote share). When the exposure to world market goes below 60% of GDP, the positive effects of benchmarked economy on incumbent vote are no longer statistically significant, as shown by the 90% CIs include *zero* in between.

This threshold-like point varies across different models (i.e., 50% in sub-figure (c), 60% in sub-figure (a) and (b), 70% in sub-figure (d)), but general patterns are stable and robust regardless of different measures of DV and different types of estimation model. Even if you are doing better than other countries in economic growth, the outperforming growth would not help your vote when the economy is less connected to the global market.

This finding provides good reasons to believe that voters in more open economies are more likely to evaluate incumbents on the basis of deviations in economic growth from other countries. Globalization plays the information-enhancing roles, and thus enable voters to distinguish incumbent competence from exogenous shocks.

(Non)-Benchmarked Economy and Globalization

To test for the influence of trade openness on electoral accountability in a conventional way, I also regress incumbent vote share on economy (measured by non-benchmarked growth), a measure of economic globalization, and the interaction of economy and globalization. According to a simple reward-punishment mechanism of economies and elections, the coefficient of the economy should be positive. If Hellwig and Samuels'

(2007) government constraint argument is correct, then I should observe a negative sign in the interaction term, implying that economic globalization weakens the linkage between economic performance and incumbent electoral outcomes.

Table 5.2 presents the regression results. I present four models: the first two sets use executive party's vote share and the other two models use the vote share of all governing parties. Models with lagged dependent variables (LDVs) are presented in model (1) and (3), whereas models with Fixed Effects (FE) are in model (2) and (4).

All four models showed that *National GDP* (measured one' own growth compared to previous year's GDP) has the expected positive impact on the vote share, and three models (1, 2, 4) confirm that the effect is statistically significant. In all models, unemployment appears to have a negative impact on incumbents' vote share although none of the coefficients reaches the conventional statistical significance levels. Regarding control variables, the *ENEP* shows negative and statistically significant effect which comports with expectation. However, the effects of *Coalition Size* and Population are unstable across different models.

More to the point, the interaction coefficient between the *National GDP* and *Trade* is negative, suggesting that trade openness reduces the positive effect of non-benchmarked growth on incumbent vote share. Similar to this, the interaction coefficient between the *National Unemployment* and *Trade* is positive (except model 1), meaning that the negative effect of non-benchmarked unemployment rate decreases as countries' economy has deeper integration to the world market. However, the unconditional coefficients and standard errors from the interaction models in Table 5.2 do not directly infer the extent to which openness affects electoral accountability (Hellwig and Samuels 2007: 293). Although the interaction coefficient is statistically insignif-

Table 5.2: The Effect of Non-Benchmarked Growth conditioned by Globalization

	Executive Party		Government Parties	
	(1)	(2)	(3)	(4)
LDV		0.347***		0.088
		(0.102)		(0.122)
National GDP	1.031**	0.929*	0.308	0.870*
	(0.444)	(0.486)	(0.529)	(0.503)
Trade (% of GDP)	0.057	-0.013	0.035	0.027
	(0.047)	(0.064)	(0.021)	(0.028)
National GDP × Trade (% of GDP)	-0.005	-0.004	-0.001	-0.004
	(0.004)	(0.003)	(0.005)	(0.004)
National Unemployment	-0.333	-0.544	-0.540	-0.383
	(0.378)	(0.336)	(0.497)	(0.388)
National Unemployment × Trade (% of GDP)	-0.001	0.001	0.004	0.001
	(0.004)	(0.003)	(0.005)	(0.004)
Effective Number of Parties	-4.316***	-3.588***	-3.990***	-3.739***
	(0.593)	(0.489)	(0.761)	(0.819)
Population(log)	6.044	0.926**	-8.985	-0.877
	(12.64)	(0.366)	(16.57)	(0.755)
Coalition Size	-1.565**	0.216	5.435***	6.701***
	(0.690)	(0.618)	(0.906)	(0.995)
Year	-0.130	-0.113*	-0.0825	-0.172*
	(0.101)	(0.064)	(0.129)	(0.101)
Constant	254.9*	251.1**	297.3	391.1*
	(139.0)	(127.9)	(181.5)	(199.6)
R^2	0.341	0.243	0.354	0.489
Elections	227	247	227	247
Countries	32	33	32	33
Fixed Effects	√	-	√	-

Robust standard errors in parentheses.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

icant, the reported standard error pertains only two specific combinations of values: the marginal effect of *National GDP* or *National Unemployment* when *Trade* equal to *zero*, or the marginal effect of *Trade* when *National GDP* or *National Unemployment* equal to *zero*.

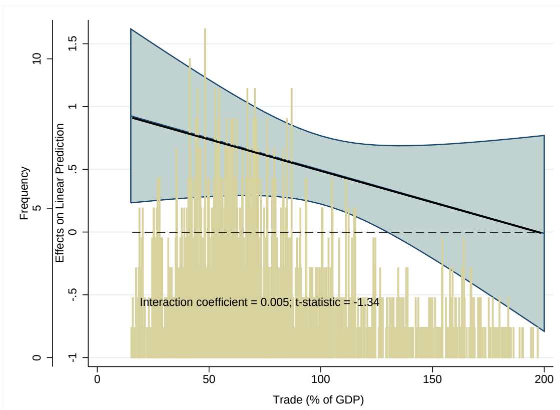
Figure 5.2 presents the degree to which exposure to the world market conditions the effect of *National GDP* on incumbents' vote share. The figures plot the marginal effects *National GDP* conditioned by *Trade (% GDP)* produced by four models in Table 5.2. The upper figures (sub-figure (a) and (b)) are based on Fixed Effects estimation, and the bottom figures are based on OLS with LDV. Shaded area displays 90% confidence intervals calculated from models conditional standard errors.

In general, it is obvious that the slope of the marginal effect of non-benchmarked growth is downward heading (except sub-figure (b)), suggesting that trade openness weakens the positive association between non-benchmarked GDP and vote share for the incumbent. For instance, similar to Hellwig and Samuels' (2007) example, consider a 5% increase in GDP growth as compared to previous GDP growth rate. Based on model 1 (in Table 5.2), the 5% increase in GDP will increase the vote share for the executive party by about 5.15% (5 x 1.03) in closed economies (where the *Trade (% of GDP)* is about 15%, which is the minimum value of *Trade* in the sample). But, when trade levels reach about 75% of GDP, the 5% increase in GDP growth contributes only 3.55% increase in executive party's vote share (5 x 0.71). Once *Trade* exceeds 130% of GDP, the positive effect of *National GDP* growth on executive party's vote share are no longer statistically significant, as shown by the 90% CIs contain *zero*.

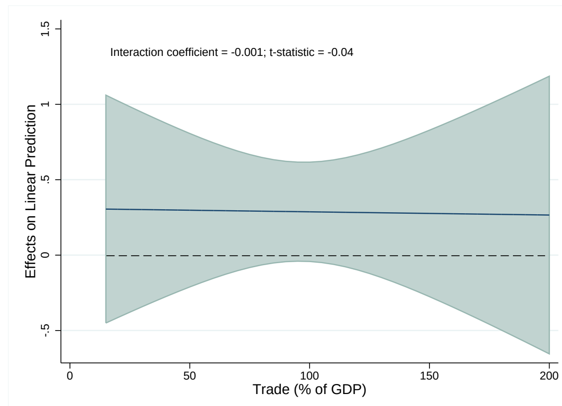
If we use model 4 (in Table 5.2), the size of the effects becomes closer to what Hellwig and Samuels (2007: 294) found (i.e., In closed economies, a 5% increase

Figure 5.2: The Effect of Non-Benchmarked Growth conditioned by Globalization (90% CI)

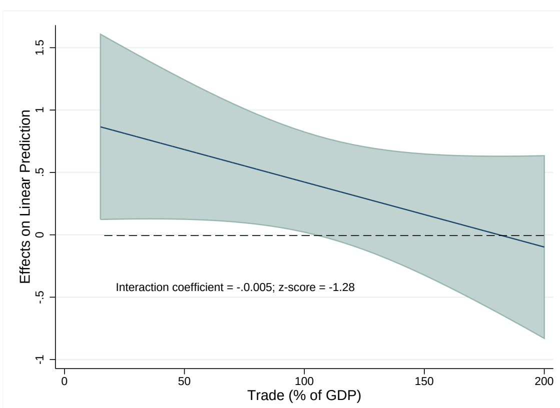
(a) Executive Party (FE)



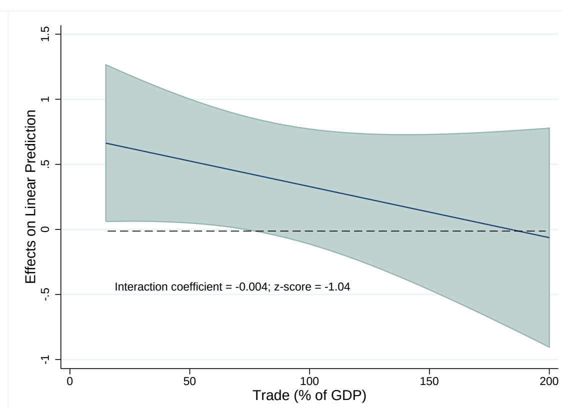
(b) Government Parties (FE)



(c) Executive Party (LDV)



(d) Government Parties (LDV)



in growth leads to a 4% increase in executive party' vote share and about 2.1% increase in vote share when trade levels reach 50% of its GDP. Once exposure to global market exceeds 77% of GDP, the positive effect of growth on incumbent vote becomes statistically insignificant). All in all, the finding is consistent with Hellwig and Samuels (2007), suggesting that economic globalization reduces voters' tendency to hold incumbent accountable for economic performance.

Do these findings contradict my own argument and findings in the previous sections? Not necessarily. Hellwig and Samuels' (2007) argument is based on the temporally benchmarked economy, and thus fails to consider the importance of spatially benchmarked economy in voters' perceptions of incumbent competence. As we have seen from recent studies (Kayser and Peress 2012; Hansen et al. 2015; Olsen 2017), voters use the spatially benchmarked economy when they arrive at evaluations for incumbents' policy performance, and they have even a stronger tendency to rely on spatial comparisons than temporal comparisons. Given its importance in voters' minds, using temporal-based economic indicators would produce incomplete analysis. In that sense, this research complements the existing knowledge by using the other important measure of the economy, and consequently, provides a fuller picture for our understanding of the relationship between the economy and electoral accountability.

Relative Economy and National Economy

I also theorize that the two reference points are not mutually exclusive, but play an interactive role in voters' minds. In doing so, voters tend to begin with national economic assessment based on temporal reference because it is much easier to obtain the necessary information. If voters are satisfied with economic performance at this initial stage, then they will have fewer reason for further scrutiny. Assessment is done, and electoral reward will be given to incumbents. However, when voters realize that their national economies are worsening or performing poorly compared to the previous year, then they become more sensitive to that shock. Because citizens are loss-averse, they place more weight on avoiding losses than obtaining gains. Media also facilitate this asymmetric voters' attitude by offering broad coverage on the weak economies in comparative settings with other economies. Increased sensitivity together with media's issue salience render voters to engage in spatial comparisons more actively.

To test this expectation, I use a split sample based on different levels of *National GDP*. More specifically, I divide the sample into four groups, where the distribution of *National GDP* is: 1) below 25 percentile, 2) between 25 and 50 percentile, 3) between 50 and 75 percentile, and above 75 percentile. Basically, the first group is the subsample of country-election with poor retrospective economic performance, whereas the fourth group has a good retrospective national economy. I expect to see a statistically significant positive coefficient in *Local GDP* in the subsamples where *National GDP* is low. In the subsample with high levels of *National GDP*, the coefficient of *Local GDP* is expected to become smaller or statistically insignificant.

Table 5.3 and 5.4 present the results of the effect of relative economy on executive party and government party vote share, respectively. In both tables, Model 1 uses the first subsample (poor national economy), and Model 2, 3, and 4 use the second, third, and fourth subsample accordingly. The *Local GDP* is positive and statistically significant in Model 1 from both Table 5.3 and 5.4. Even though a country's national economy is weak, a relatively good economic performance than other country will increase executive party's and government parties' voter share. However, this positive

Table 5.3: The Effect of Benchmarked Economy on Executive Party's Vote conditioned by National Economy

	(1) National GDP $< p25$	(2) $p25 - p50$	(3) $p50 - p75$	(4) $p75 <$ National GDP
Local GDP	0.850***	-0.036	-0.072	-0.042
	(0.305)	(0.325)	(0.307)	(0.561)
Effective Number of Parties	-5.390***	-3.878***	-5.151***	-5.518***
	(1.029)	(0.845)	(0.803)	(0.885)
Population (log)	0.328	-0.326	-0.177	0.630
	(0.839)	(0.421)	(0.839)	(1.074)
Year	-0.015	-0.077	-0.394***	-0.241
	(0.318)	(0.185)	(0.0953)	(0.175)
Coalition Size	2.038*	-1.346**	0.265	-1.190
	(1.115)	(0.582)	(1.134)	(1.486)
Constant	77.73	211.6	845.8***	532.9
	(639.8)	(370.5)	(194.8)	(349.8)
Elections	33	26	32	51
Countries	21	16	20	24

Robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

effect of the outperforming appears to vanish when the country's national economy is not doing poorly in Model 2, 3, and 4. The coefficients of the *Local GDP* become statistically insignificant and the signs show instability in both Tables.

Table 5.4: The Effect of Benchmarked Economy on Government Parties' Vote conditioned by National Economy

	(1) National GDP $< p25$	(2) $p25 - p50$	(3) $p50 - p75$	(4) $p75 <$ National GDP
Local GDP	1.391***	0.208	-0.302	0.190
	(0.486)	(0.982)	(0.627)	(0.911)
Effective Number of Parties	-7.146***	-2.618***	-3.262***	-4.929***
	(1.603)	(0.882)	(0.631)	(1.273)
Population (log)	-2.485	-2.159	-0.118	-0.707
	(1.624)	(1.616)	(1.898)	(1.328)
Year	-0.206	-0.099	-0.255	0.060
	(0.425)	(0.267)	(0.167)	(0.245)
Coalition Size	11.87***	7.202***	6.358***	7.989***
	(2.891)	(1.574)	(2.222)	(1.885)
Constant	486.6	257.3	556.4	-67.31
	(848.4)	(539.9)	(342.3)	(487.5)
Elections	36	28	36	55
Countries	23	18	22	26

Robust standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Although using the split sample is useful, it has limitations regarding the sample size. For instance, Model 2 where the sample is based on from 25 to 50 percentile of *National GDP* has 26 elections from 16 countries in Table 5.3 and 28 elections from18 countries in Table 5.4. For this reason, I also regress separate models with the full sample by including an interaction terms between *Local Economy* and *National Economy*. I expect to observe the negative sign for the interaction term, suggesting that good national economies (non-benchmarked) reduces the positive effect of benchmarked economies on incumbents' electoral performance.

Figure 5.3 better presents how the *National GDP* conditions the effect of *Local GDP* on election results. As seen all four sub-figures, there is a consistent and stable downward pattern that reflects the negative interaction coefficients. This comports with the proposed theory. Even though country A experiences a negative growth rate by 5%, if A's growth outperforms country B's growth by 3% (B is the most relevant spatial reference for A) growth rate, voters in A will give a credit for the relative good performance by giving a 2.7% (3 x 0.9, based on sub-figure (c)) additional votes to their incumbents.

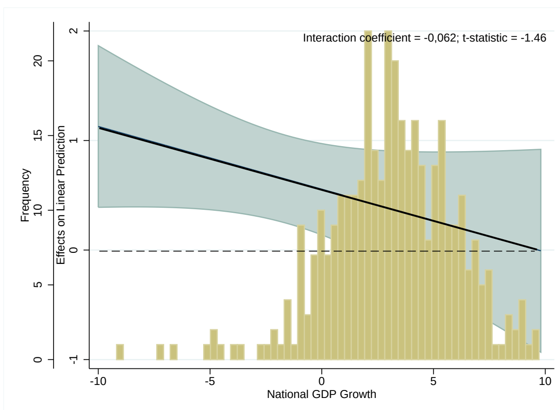
Even if country A's growth rate stays the same, if it exceeds country B's growth rate by 3%, the executive party in A is expected to gain votes by about 1.8% (3 x 0.6). When its own growth exceeds 2.5%, then the positive effects of out-performance on votes are no longer statistically significant in sub-figure (c). The cut-off points, which make the effect of *Local GDP* on vote null, vary across different models raging from 2 (sub-figure (d)) to 4.5 (sub-figure(b)), but on average about a 3% increase in *National GDP* will render the effect of out-performance indistinguishable from *zero*.

5.3 Discussion

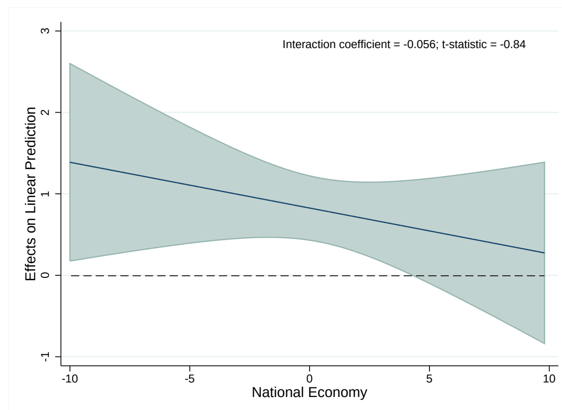
In the theory section, I question whether voters always rely on a cross-national yardstick in a similar fashion, and if not, and the conditions voters tend to benchmark spatially. I argue that the effect of the relative economy on vote choice is not fixed but rather varies according to globalization and one's own national economic performance. First, I suggest that globalization, marked with increased flows of goods,

Figure 5.3: The Effect of Benchmarked Growth conditioned by National Growth (90% CI)

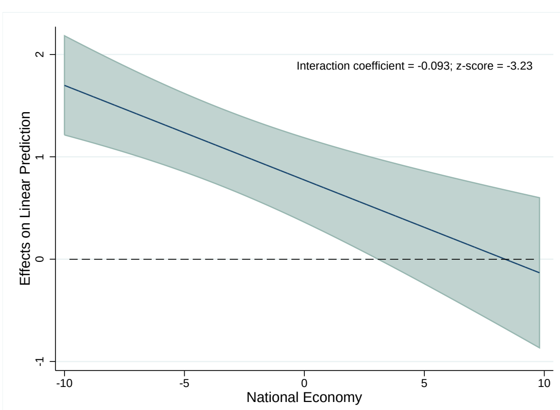
(a) Executive Party (FE)



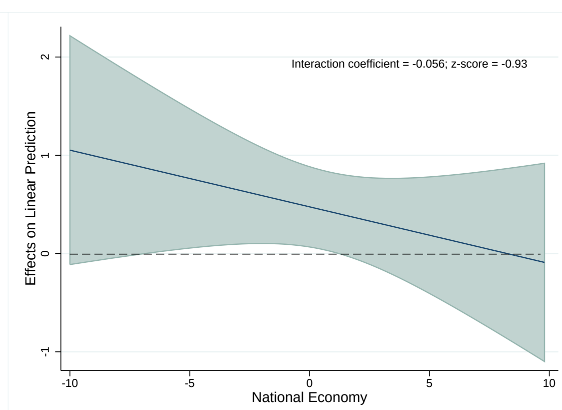
(b) Government Parties (FE)



(c) Executive Party (LDV)



(d) Government Parties (LDV)



services, capital, labor, as well as news, ideas, information, will increase engagements and interconnection with other countries. This can bring great sources of comparisons to citizens' minds in the form of direct engagement and through the media. Thus as countries' economic globalization increases, the effect of relative economy on incumbent vote share increases.

Second, I theorized that voters tend to be more sensitive to cross-border comparisons when their national economy is weak, but they tend to downplay comparative performance during a strong national economy. Based on the prospect theory, voters asymmetrically assess losses and gains, and they place more weight on avoiding losses. In addition, the economy easily becomes a hot issue under a weak economy. This increased sensitivity and issue salience will create a strong tendency to obtain further information and lead voters to actively engage in cross-border comparisons. The effect of relative economy on incumbent vote share will be stronger under bad national economic conditions.

Looking at 247 elections in 33 countries since the 1980s, I found supportive evidence for both of the arguments. Globalization, measured by trade openness, makes the effect of the benchmarked growth on incumbents' vote share salient. As countries integrate to the world economy more and more, a relative positive economic growth is likely to bring a bigger impact on incumbents' voter share, whereas the effect becomes weaker and eventually vanishes as countries trade less with other countries. However, using the non-benchmarked measures of the growth, I also found that globalization, as the conventional wisdom predicts, attenuates the linkage between the non-benchmarked growth and incumbents' vote share. Thus the impact of globalization on electoral accountability depends on which measure of the economy has been used for.

Regarding the interactive hypothesis, I also found that the poor national economic growth makes the effect of relative economy on the incumbents' vote share stronger. Moreover, voters care less about the benchmarked economic growth when their own growth rate is fairly high than the past records. This finding implies that the two reference points are not exclusive, but interactive each other.

One important implication of the conditioning effect of globalization is that politicians, faced with limited policy by globalization, will not be completely free from blame for their poor performance if they are doing worse than other countries. Under globalization, politicians could use openness-induced policy limitation as a scapegoat for poor performance. However, if the limited policy autonomy is a not unique condition but somehow ubiquitous due to spreading globalization, then the would-be scapegoat is no longer an available option for strategic politicians because voters will see that there are countries out-performing their own, even with similarly limited policy choice.

One observable implication of the second conditioning effect is that voters do rely on both of the reference points, not simultaneously, but sequentially. Because temporal-based comparison is easy to make, voters first evaluate the current state of the economy by looking to the previous year's performance. If the economy is strong at this initial stage, voters will make their vote choice based on this first assessment. However, a weak economy signifies a red flag in voters' minds about incumbent competence in handling the economy. They then tend to take a further step toward spatial comparisons in order to obtain additional heuristic shortcuts. By looking to how other economies are doing, voters are better able to distinguish a shock in incumbent competence from a shock in exogenous factors.

Chapter 6

The Effect of Relative Economy on Voter Turnout

Decades of scholarship have informed us that citizens are retrospective voters, so they reward or punish incumbents based on the evaluations of the past government performance. This approach, however, takes 'voting' for granted, and as a result fails to consider "abstaining" as an option of voting behavior. Thus much less is known about the relationship between economic conjuncture and electoral participation. Existing literature has suggested conflicting expectations about the the role of the economy on voter turnout, and empirical findings have portrayed an ambiguous conclusion on the linkage between the economy and turnout.

More specifically, one strand of literature argues that economic downturn mobilize voters to express their grievances at the poll ('mobilization hypothesis'). Another strand of literature suggests that economic hardships depresses electoral participation ('withdrawal hypothesis'). Although each of these sides has received some empirical support, most previous empirical tests of this relationship in cross-national analyses have shown null findings (Lavezzolo 2008; Fornos et al. 2004; Blais and Dobrzynska 1998).

One of the reasons for these null results is that all previous cross-national studies have employed temporally benchmarked economic variables in their empirical models. The economic fluctuations in various economic indicators such as income, growth, and unemployment have been understood by comparing the current economy with those of previous years. Said differently, the economic downturn in GDP growth rate is measured as changes in the annual GDP growth rate compared to the previous year's growth rate (temporally benchmarked economy). However, this approach cannot fully explain how voters arrive at economic evaluations, and as a result, will suggest an inappropriate frame in depicting the relationships between the economy and electoral participation.

As stated in the theory chapter, I postulate that voters are more sensitive to the relative economic performance, and thus they will make their decision, whether to vote or not, based on the relative economic conditions. Based on two competing theories, I propose two expectations: 1) *Elections with high levels of relative economic hardships will result in high levels of turnout*, and 2) *Elections with high levels of relative economic hardships will result in low levels of turnout*, and test the following models.

$$Voter\,Turnout_{it} = \alpha + \beta_1 LocalEconomy_{it-1} + Controls + \varepsilon_{it} \tag{8}$$

I also argue that the effect of relative economy on voter turnout is conditioned by clarity of responsibility. Clarity of Responsibility has been considered an important institutional concept that affects voting behavior since Powell and Whitten (1993). In particular, it influences a voter's ability to assign responsibility for policy outcomes to incumbent leaders. According to the literature on retrospective voting, high-clarity contexts make this responsibility attribution mechanism clearer while low-clarity conditions make it more confusing (Powell and Whitten 1993). If voters know who is responsible for relative economic hardships, it may convince voters to turnout because it reduces the cost of information.

The way clarity of responsibility affects the cost of voting is straightforward. Most of the theories that attempt to explain why some people turn out to vote while others do not build on the idea that voting is a costly behavior for citizens (Aldrich 1993). Voting takes time and effort, not only to register and go to the polling station (physical costs), but also to identify issues, gather information about the candidates and political parties, and think or deliberate on that information (information costs).

Low clarity of responsibility hinders performance evaluations as it makes it harder for voters to determine who is responsible for economic outcomes. If policy responsibility is attributed to multiple government actors, voters need to spend more time and effort on gathering information to find out who is responsible for what, which increases the cost of voting. The most common example is the case of coalition government.

When a government is composed of several political parties, it is unclear to voters which of the coalition partners is responsible for which policy. The incumbents of the coalition government, unlike those of majority governments, can throw the blame for relative poor economic performance on each other, thereby weakening voters' capability of identifying those who are specifically responsible. In this sense, Lewis-Beck and Lockerbie (1989: 167) argue that "with more parties in power, there is less responsiveness ... to voter views on economic policy. Thus voters who are concerned over the curse of the economy are less motivated to turn out in an attempt to punish (or reward) the government." (Lewis-Beck and Lockerbie 1989: 167) Following this line of reasoning, I expect that *the effect of relative economic hardships on voter turnout will be stronger when the level of clarity of responsibility is high*, and test the following model.

$$Voter\ Turnout_{it} = \alpha + \beta_1 LocalEconomy_{it-1} + \beta_2 COR_{it-1} + \beta_3 LocalEconomy_{it-1} \times COR_{it-1} + Controls + \varepsilon_{it} \quad (9)$$

6.1 Research Design

Data

To test the above-stated hypotheses, I obtain information on voter turnout in 30 countries since the 1980s. They are mostly, not all, members of the Organization for Economic Co-operatioin and Development (OECD). The scope of the data restricts itself to the countries and times for which electoral results and media information are available in the ParlGov dataset (Döring and Manow 2012). In particular, because I focus on relative economic voting using the media-coverage-based spatial reference points, the time dimension of the dataset is heavily restricted to data availability in

Lexis-Nexis database. All in all, the data include information on 150 elections from 30 countries since the 1980s.

Outcome Variables

The outcome variable is *Voter Turnout.* There has been substantial disagreement about the measure of turnout. On the one hand, scholars measure the percentage of Registered Voters (REG) that go to the polls (Powell 1986; Blais and Dobrzynska 1998; Franklin 2004; Kuenzi and Lambright 2007, Dettrey and Schwindt-Bayer 2009). On the other hand, it is measured as the proportion of the Voting-Age Population (VAP) that turns out to vote (Powell 1986; Jackman 1987; Gray and Caul 2000; Fonos et al. 2004; Endersby and Krieckhaus 2008; Dettrey and Schwindt-Bayer 2009). Each way of measuring has its own limitations.

For instance, the registration-based measure has narrow variation because it is based on the group of people that is already predisposed to turn out to cast a ballot. The age-based measure might cause problems for cross-national comparability due to the exclusion of some group in the voting-age population in some countries (Blais et al. 2002)[1]. To avoid overstating results that are biased due to either measurement errors or comparability issues, I present models with both variables[2]. I obtain both measures (REG and VAP) of turnout from the Voter Turnout Database of Institute for democracy and Electoral Assistance (IDEA).

Explanatory Variables

[1]For a review on turnout measurement, see Appendix A in Geys (2006).

[2]The correlation in the two measures of dependent variable is high, the Pearson correlation coefficient is 0.84 ($p < .0001$), indicating that they are very similar, though not identical, measures of turnout.

The key explanatory variables are GDP growth rate and unemployment rate[3]. For spatial comparisons (benchmarked economy), I create *Local Economy*, which I subtract the economic indicators of one's spatial reference from one's own indicators. To correctly measure this benchmarked economy, I attempt to identify the best possible spatial points for each election across countries. This is important because in an empirical model, I do not want to force each election and country to compare its economy with a universal reference point. Instead, I render voters compare their economy with similar, familiar and connected other countries' economy at a given election.

Using media coverage information from Lexis-Nexis, I obtained the number of news items about a particular economy per country from 12 month prior to an election day. Based on the frequency of news item and I select three spatial reference points (RP1, RP2, RP3). RP1 is the economy of the first country in the ranking, and RP2 is the average economy between the top 2 countries in the ranking, and the average economy among the top 3 countries, respectively. In separate models, I use one year lagged values of national economic indicators (non-benchmarked economy) to show how my results (benchmarked economy) are different from the conventional wisdom.

Clarity of Responsibility

To control for *Clarity of Responsibility*, I follow Dassonneville and Lewis-Beck (2017) because each component of their cumulative measure is theoretically-defined, and reflect the concept of clarity of responsibility, which eventually increases the *content validity*. They propose two types of clarity of responsibility, Institutional Rules and

[3] I obtained information on the GDP growth rate from Conference Board (2014), and information of unemployment rate from IMF

Power Rules. The former captures static institutional settings, whereas the latter focus on dynamic political settings. Because several studies find that the static Institutional Rule has no conditioning effects to the economy on vote choice (Hobelt et al. 2013, Dassonneville and Lewis-Beck 2017; Park et al. forthcoming), I only include the dynamic variable of clarity of responsibility, the *Power Rules*. According to Dassonneville and Lewis-Beck (2017), the *Power Rules* is consist of five elements.

First, it includes the number of parties in government. The difference between coalition and single-party governments is consistently understood as important for clarity of responsibility (Powell 2000). Second, it includes an indicator dividing majority and minority governments. Given that the majority government has more freedom to pursue policies, it is expected to increase clarity of responsibility. Third, the variables also includes an indicator of the effective number of parties. A more fragmented party systems tend to make the electorate difficult to identify a clear alternative to the governing parties (Anderson 2000). Put differently, too many available options will make a viable option blurred. The fourth indicator relates to the openness of the economy, with the expectation that in more globalized economies responsibility will be less clear due to limited policy space to maneuver (Duch and Stevenson 2010; Hellwig and Samuels 2007). Finally, a measure of the length of time the incumbent has been in office is included, expecting that as more time in power will increase the voters' understanding of who to hold responsible.

Dassonneville and Lewis-Beck (2017) obtained information on each of these elements from various objective data. Data on *single-party government*, *majority government*, and *stable cabinet* is provided by ParlGOV (Döring and Manow 2012). The *stable cabinet* is measured as the length of time a government has been in office (expressed in years). Gallagher's dataset (2015) is the source of information on effective number of parties (ENEP). Following Fernández-Albertos (2006), *closed economy* is measured as the sum of a country's exports and imports (expressed as % of GDP and obtained from the World Bank's dataset).

Control Variables

To account for rival explanations, I include various political and socioeconomic control variables based on previous studies. With regards to political variables, we include *Compulsory Voting* variable. In decades of scholarship, it has been established that turnout is higher when voters are required by law to go to the polls (Powell 1986; Jackman 1987; Lijhphart 1997; Franklin 1999; Gray and Caul 2000; Fornos et al. 2004). This is operationalized as a dichotomous variable, coded 1 if a country compels citizens to vote by law, and otherwise 0. The information on compulsory voting is based on the IDEA dataset.

The debate over which electoral system causes larger turnout is extensive and not yet settled at the global level (Blais and Aarts 2006). In the case of advanced democracies, though, it appears that proportional systems lead to higher turnout rates than majoritarian ones (Karp and Banducci 2008). However, there are two opposing causal mechanisms at work. The first is that PR leads to more and ideologically distinct parties, which allows a wider range of choices to the voter. This increases the chances they find a party they like and therefore, PR systems increase turnout (Cox 1999). The opposing argument is that higher numbers of parties in PR systems reduce the decisiveness of elections by increasing the chances for a coalition government, and thus, lead to decreased turnout (Powell 2000). Information on democratic electoral systems comes from Bormann and Golder (2013), and is coded as either a majoritarian system or proportional/mixed electoral system. Bormann and Golder's (2013) dataset also contains information on dual executives (i.e. a semi-presidential system).

The structure of the political system, such as presidentialism vs. parliamentarianism, impacts voters' cost-benefit calculations. Scholars find that presidentialism decreases turnout in legislative elections (Tavits 2009; Siaroff and Merer 2002). Information on whether a system is presidential or not comes from the Bormann and Golder (2013) dataset. I also include levels of *Polity IV*, and expect that more democratic countries would have higher turnout because political rights respect and civil liberties would encourage citizens to express various views and participate in political activities, especially voting (Fornos et al. 2004). I use the Polity IV variable, which ranges from -10 (strongly autocratic) to $+10$ (strongly democratic) (Marshall et al. 2014).

In addition, I account for *Election Competitiveness*, following the plausible expectation that citizens tend to turn out more in competitive elections because the marginal effect of any additional vote on the outcome is going to be larger the closer the race is (Powell 1986; Franklin 2004). *Election Competitiveness* is operationalized as the absolute value of the percentage point difference in seat share between all governing parties and the opposition (Franklin 2004; Hobolt and Klemmensen 2006). I obtain the data on seat shares of parties from Armington et al. (2015). As the higher value of *Election Competition* denotes differences in seat shares between the governing and opposition parties, it represents a less competitive election. I expect to see a negative sign for this variable.

Finally, I add the *Population* variable to control for the size of a country. Based on Blais (2000), I expect that turnout will be higher in smaller countries because one single vote in a small state is seen as having a higher probability of being decisive, inducing a larger effect in electoral outcome (Geys 2006; Blais 2000; Grofman 1984; Mueller and Stratmann 2003). I collect data on the size of *Population* (in 1000's and logged) from Gleditsch (2002). All these socioeconomic factors are lagged for a year.

6.2 Results and Analysis

How does the economy affect voter turnout? To answer this question, I first regress voter turnout on the economy. According to the mobilization hypothesis, the coefficient of the GDP should be negative because good economy will not mobilize voters to turnout. If the withdrawal hypothesis is correct, the coefficient of GDP should be positive because a worsening economy will make voters alienated and indifferent to politics.

Table 6.1 presents the results of the OLS regression. I present four models. Models 1 and 3 explain variations in the percentage of the voting age population (VAP) that goes to the polls, and Models 2 and 4 explain variations in the percentage of registered voters who turn out (REG). Regarding the economy variable, Models 1 and 2 use the national GDP and unemployment (temporally benchmarked) values whereas Models 3 and 4 use the relative economic performance, Local GDP and unemployment (spatially benchmarked).

The first noticeable point is that the economy, using the temporally benchmarked variable, appears to have no effect in Models 1 and 2. The coefficients of both *National GDP* and *National Unemployment* are statistically insignificant and their signs are

Table 6.1: The Effect of Benchmarked and Non-Benchmarked Economy on Voter Turnout

	(1) VAP	(2) REG	(3) VAP	(4) REG
National GDP	0.012	-0.068		
	(0.161)	(0.158)		
National Unemployment	-0.082	0.117		
	(0.212)	(0.188)		
Local GDP			0.499**	0.399**
			(0.214)	(0.216)
Local Unemployment			-0.043	0.127
			(0.189)	(0.172)
Compulsory Voting	9.147*	15.75***	9.397*	16.00***
	(4.921)	(3.532)	(4.957)	(3.484)
Majoritarian Systems	-1.829	0.545	-2.711	-0.413
	(4.829)	(3.305)	(4.970)	(3.287)
Presidential System	5.229	8.044***	6.256	8.433***
	(3.806)	(2.414)	(4.001)	(2.376)
Polity IV	-1.233	-1.576	-1.648	-1.748
	(1.436)	(1.165)	(1.397)	(1.158)
Electoral Competitiveness	-0.007	-0.044	-0.001	-0.050
	(0.044)	(0.041)	(0.043)	(0.041)
Population (log)	2.576*	-0.728	2.948*	-0.478
	(1.498)	(0.977)	(1.582)	(0.978)
Constant	51.01***	81.15***	50.00**	80.44***
	(19.72)	(14.06)	(20.07)	(13.64)
Countries	30	30	30	30
Elections	148	150	147	149

Robust standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

not robust across different types of outcome variable. The nil findings are consistent with Blais' (2006) observation, that is "there is no clear relationship between the economic conjuncture and turnout" (Blais 2006: 117).

However, the benchmarked economic variable in Models 3 and 4, especially the *Local GDP*, appear to reach the conventional statistical significant levels. With regards to competing hypotheses, the positive sign of the coefficient of *Local GDP* suggests that voters tend to turn out less during economic adversity, which supports the withdrawal hypothesis. That being said, voters tend to abstain from voting when their economic growth rate is relatively poorer than other countries. In particular, when your GDP growth rate is lower than your most important neighbor's GDP growth rate by 1%, there will be about a 4% or 5% reduction in turnout rate.

Local Unemployment has no effect on voters' decision to turn out. This is the similar finding in that the relative unemployment has no effect in vote choice. As expected, *Compulsory Voting* has a statistically positive impact on turnout across all models. Compulsory voting laws increase turnout by about 9.1 percentage points among the voting age population, and 15 percentage points among registered voters. The results of *Majoritarian Systems* indicate that electoral systems do not have an impact on turnout. As opposed to the theoretical expectation, presidentialism appears to help voters turnout when the turnout is measured as the percentage of Registered Voters (REG) that go to the polls (Model 2 and 4).

The coefficient of the level of democratic freedom in an election does not reach statistical significance across both measures of turnout. The measure for election competitiveness has a negative relationship with turnout, but is statistically insignificant in all models. Because higher values of *Election Competition* mean bigger gaps in seat share between governing and opposition parties, I expected a negative association. In other words, the negative coefficients suggests that turnout tends to increase when the electoral race is competitive. Against expectations, the size of the country operationalized by its population appears to have a statistically positive influence on turnout in Models 1 and 3. However, this result is not robust, as it becomes statistically insignificant in Models 2 and 4 with different signs.

I also theorize that the effect of relative economic performance on voter turnout will be stronger when the level of clarity of responsibility is high. To test this expectation, I include an interaction term (*Local GDP* $\times$ *Clarity of Responsibility*) into the turnout model.

Table 6.2 presents the results on the conditional hypothesis. Surprisingly, the coefficient of *Local GDP* show the negative sign and none of the coefficient reaches the conventional levels of significance. More importantly though, the interaction coefficient between *Local GDP* and *Clarity of Responsibility* is positive and statistically significant, suggesting that clarity of responsibility increases the effect of spatially benchmarked growth on voter turnout. Because it is not possible to directly interpret the impact of the economy on incumbent vote conditional on clarity of responsibility from the mere values of coefficient in Table 6.2, plotting the marginal effect of GDP growth for the full range of values on the *Clarity of Responsibility* provides useful insightful in this regard (Berry et al. 2012; Brambor et al. 2006).

Figure 6.1 presents the marginal effects graphs showing the degree to which the level of clarity of responsibility conditions the effect of benchmarked GDP growth on turnout. The outer y-axis and the bar graph present the distribution of *Clarity of Responsibility*. The inner y-axis and solid line present the marginal effect of *Local*

Table 6.2: The Effect of Benchmarked Economy conditioned by Clarity of Responsibility

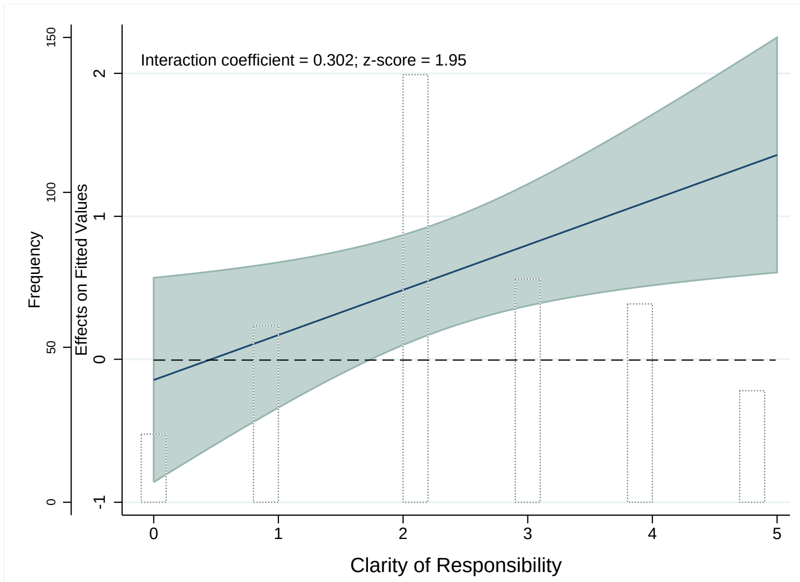
	(1) VAP	(2) REG
Local GDP	-0.113	-0.167
	(0.415)	(0.386)
Clarity of Responsibility	1.214	1.370**
	(0.753)	(0.643)
Local GDP $\times$ Clarity of Responsibility	0.302*	0.275*
	(0.154)	(0.145)
Local Unemployment	0.085	0.169
	(0.192)	(0.163)
Compulsory Voting	8.949*	15.13***
	(4.610)	(3.248)
Majoritarian Systems	-4.887	-2.199
	(4.649)	(3.167)
Presidential Systems	2.967	6.001***
	(3.613)	(2.281)
Polity IV	-1.165	-1.623
	(1.412)	(1.165)
Electoral Competitiveness	-0.046	-0.078**
	(0.044)	(0.039)
Population (log)	2.009	-1.218
	(1.438)	(0.935)
Constant	53.73***	85.29***
	(18.69)	(13.35)
Countries	29	29
Elections	143	145

Robust standard errors in parentheses

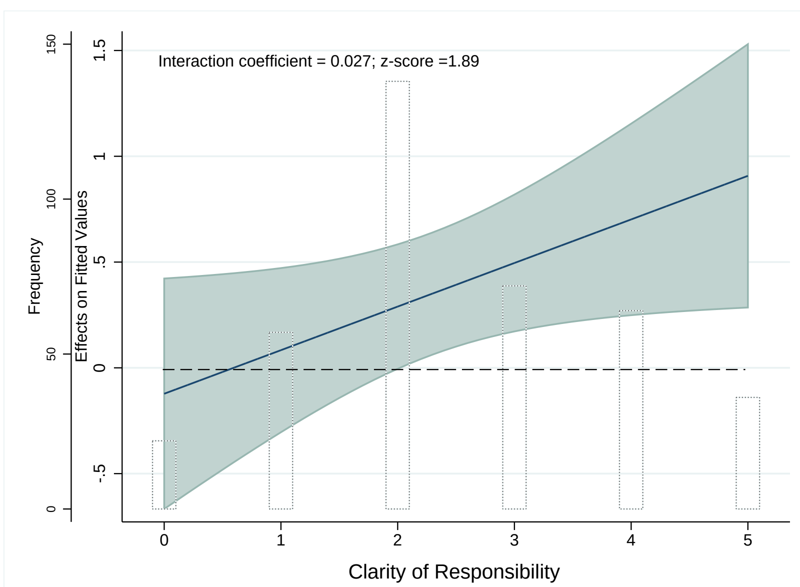
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 6.1: The Effect of Benchmarked Growth conditioned by Clarity of Responsibility (95% CI)

(a) VAP



(b) REG



GDP on turnout based on Table 6.2. The shaded area shows the 95% confidence intervals. The sub-figure (a) is based on the turnout measured by the proportion of the Voting-Age Population (VAP) that turns out to vote, and sub-figure (b) is based on the turnout measured by the percentage of Registered Voters (REG) respectively. In each sub-figure, the x-axis presents the levels of *Clarity of Responsibility*, ranging from 0 (low level of COR) to 5 (high level of COR), and the y-axis show the marginal effect of growth on turnout.

One noticeable point is that in all sub-figures, there is an upward sloping marginal effect graph, suggesting that there tends to be a stronger effect of growth on turnout as the level of *Clarity of Responsibility* increases. More to the point, the effect of relative economic GDP growth does influence voter turnout when the level of *Clarity of Responsibility* is below 2. Once the level of *Clarity of Responsibility* exceeds 2, then relative economic growth appears to have a positive effect on voter turnout, and this positive effect becomes stronger as the value of *Clarity of Responsibility* increases. This pattern is consistent in both sub-figures (a) and (b), and supports the conditional hypothesis (H3). The withdrawal effect depends on whether voters are able to discern who is in charge of economic policy outcomes.

6.3 Discussion

Two dominant theories of the effect of the economy on voter turnout present the conflicting expectations that voters either withdraw or mobilize their votes during economic hardships. However, most of cross-national studies find that there is no relationship between economic fluctuation and voter turnout (Arcelus and Meltzer

1975; Fornos et al. 2004; Fauvelle-Aymar and Stegmaier 2008; Blais and Dobrzyanska 1998; Blais 2000). In this chapter, I pointed out that if existing literature has included appropriate economic variables into the turnout models.

I argue that voters' evaluations of good or bad economy are not merely based on national economic conditions. Instead, they tend to look to other countries' economies to gauge the relative conditions of their economy. The relative economy provides voters with useful information about the competence signal of incumbent in handling the economy. A relatively poor economy either leads voters to lose confidence in their government and renders them alienated from and indifferent to politics (withdraw argument) or makes voters express their grievances actively by holding their government accountable at the polls (mobilization argument).

Utilizing 150 elections in 30 democracies, I tested these two competing hypotheses and found supportive evidence for the 'withdrawal' argument. Relatively worsening economic growth makes voters *abstain* from voting because they lose confidence in the managerial competence of their government—when national growth rate is worse than that of an important reference country. Following the traditional research, I also test the effect of the economy on voter turnout by using *National* economy. The OLS results indicate that there is no statistically significant relationship between the national economy and voter turnout.

This null finding is consistent with what most cross-national studies have found. However, my approach using relative economic variables reveals a statistically significant association between the economy and voter turnout, a finding in line with 'withdrawal' theory. This finding implies that sources of instability in existing studies come from poor measures of the economic variable. The non-benchmarked economy is greatly limited in its ability to assist citizens in evaluating the health of the economy as well as incumbent competence. Citizens receive more accurate and useful information on incumbent competence in handling the economy by ‘comparing’ their performance with others, the same way that individuals tend to ‘compare’ things in their daily lives.

Chapter 7

Summary and concluding remarks

This research explores the role that relative economy plays in vote choice and turnout. Vote choice or the decision to turnout in an election is heavily predicated on selecting competent incumbents based on their job performance in handling the economy. To do so, voters should extract the 'competence signal' from the observed economy (Duch and Stevenson 2008), but signal-extraction is not an easy task; the observed economy contains noisy exogenous shocks which are irrelevant to incumbent managerial competence. Moreover, it is cognitively demanding to comprehend economic conditions because the data do not speak for themselves. What passes for strong growth in one period or place might be considered weak in another. To address these concerns, I argue that one important way for voters to extract the competence signal and overcome these cognitive complexities is to make comparisons with other countries. Simply put, a relatively strong economy signals incumbent competence whereas a relatively poor economy signals their incompetence.

In order to make accurate relative economic evaluations, I emphasize the importance of selecting the appropriate spatial reference point across elections and countries. To that end, I argue that the selection process should be guided by theory suggesting that voters will benchmark countries that are *similar, familiar, and connected*, and that media can assist guiding voters to appropriate reference points. Chapter 3 provides a detailed discussion about the procedures that I followed using Lexis-Nexis, the domestic media sources from 33 democracies, and the specific economy-related key words in 22 different languages. More importantly, it shows the list of the media-based spatial reference points across elections and countries.

The list of spatial reference points shows a strong stability in the ranking, especially in the Rank 1 category (i.e., New Zealand has been always the most frequently appearing name in Australian news media regarding its economy and vice versa). Another important observation is that each group looks after their own regional interests. Scandinavian countries such as Norway, Finland, Sweden, and Denmark tend to observe each other's economic news—the same may be said of the Baltic countries (Latvia, Lithuania, Estonia) and post-Communist countries (Czech Republic, Romania, Bulgaria, Poland, Hungary, and Slovakia). Some countries, such as United Kingdom, pay more attentions to their regional rivals such as Germany, France, and Italy, whereas French and German media emphasize the economic trends of the European Union as a whole.

Using media-guided spatial reference points, Chapter 4 tests the effects of relative economy on incumbent vote share. To make a comparison about the effects of the national economy and relative economy on vote choice, I also include separate models using different measures of the economy. The empirical evidence supports my expectation that voters reward/punish their governing officials based on spatially benchmarked economic growth. Incumbents tend to be rewarded with increasing vote shares for out-performing growth and are punished for the opposite. Regarding the magnitude of the effect of national economy and relative economy, the results show statistically significant and robust effects of the relative economy. However, the coefficients of *National Economy* are smaller than *Local Economy*, and its effects show instability, failing to reach conventional statistically significant levels across different models. More to the point, I show that clarity of responsibility mediates the link between the economy and incumbent vote share in general but its conditioning effect appears to be weaker with the *Local Economy*, suggesting that voters strongly react to relative economic performance regardless of the institutional context.

Chapter 5 explores two economic contexts that condition the role of relative economy on vote choice. The first context is economic globalization. Although previous research suggests that globalization weakens economic voting because it makes the national economy depends on global economy, which gives incumbents an excuse to shift blame for poor performance to global context. In this paper, however, I argue that globalization makes voters compare their economy with other countries' because of increasingly available global economic information. Relating to conventional wisdom in this regard, I also argue that even though globalization reduces national policy autonomy, and hence gives politicians an excuse to avoid blame for economic policy failure, if limited policy space becomes a common factor everywhere, citizens will not consider the common factor as an excuse for cross-border deviations. That is, blame shifting will no longer be available for relatively poor performance. The empirical results support this expectation. As countries' economic globalization increases, the effect of relative economy on incumbent vote share increases.

Second, Chapter 5 also examines the interactive effect between temporal and spatial reference points in forming vote choice. Predominant research has used temporal reference points, exploring whether voters compare current conditions against previous ones. Deviating from this conventional comparison strategy, recent scholarship have begun to look at across-border benchmarking by focusing on spatial reference points. Although this research provides new insights on relative economic voting literatures, it unwittingly ignores the role of temporal reference points. This is the first research project that suggests voters tend to use both temporal and spatial reference points. Put simply, the two reference points are not independent of each other when it comes to helping with voters' retrospective evaluations. Instead, they have an interactive role in that the effect of cross-border benchmarking will be strong when retrospective national economic conditions are poor. My finding also supports this expectation. The effect of relative economy on incumbent vote share becomes stronger under bad national economic conditions.

Chapter 6 examines the effect of relative economy on voter turnout. Although two dominant theories, 'mobilization' and 'withdrawal,' are theoretically convincing, they have failed to receive empirical support, particularly from cross-national samples. I argue that one reason for this ambiguity is rooted in a misunderstanding of how voters form attitudes about economic performance. By including national economic variables in turnout models, previous research implicitly presumes that voters economic assessments are limited to the national environment without a comparative international context. When forming attitudes, however, I argue that voters rely on relative performance information by comparing the national economy to the economies of others. If the economy has an effect on turnout, the benchmarked economy rather than the national economy will affect voters' evaluations, and consequently their decision to turnout. The results of Chapter 6 support the 'withdrawal' hypothesis. Relative poor economy reduces voters' confidence in incumbent skills in managing the economy and lowers democratic satisfaction. As a result, voters becomes alienated and indifferent from politics, which lead them to stay at home on election days.

Although relative performance theory has recently appeared in economic voting literature, its applications have been very limited. This research attempts to expand the boundaries of its application by looking at how voters react to relative economic performance when they make a decision to turnout. The finding of this research demonstrates applicability of benchmarking hypothesis to various research topics and areas in political science.

This research has several implications. First, the retrospective voting literature, in particular economic voting, has enhanced our understanding about voters' ability to hold their elected officials accountable. This is important because the way voters reward/punish incumbents according to policy performance is directly linked to democratic accountability as well as to the quality of democracy (Powell 2000). Governments that are subject to "periodic popular elections govern both better and more in the interest of the governed when their tenure depends on the approval of the electorate" (Kayser and Peress 2012: 680). The economy has been considered one of the most important factors in democratic accountability mechanisms. If this relationship exists, it reassures democratic theorists, but if not, it is worrisome. Kayser and Peress (2012) have also pointed out that the absence of the relationship between the economy and the vote, which is not uncommon, and its magnitude, which is often weak, can "raise concern about even the existence of democratic electoral accountability"

(680).

Comparative economic voting studies have found great instability in the link between the economy and vote choice across countries and over time, which invites skepticism about democratic electoral accountability. However, this research argues that previous studies have fundamentally misunderstood how economic evaluations are formed and thus incorrectly estimate the link between the economy and voter behavior. Previous research assumes that voter behavior such as vote choice and turnout is restricted to the national environment without a comparative international context (Kayser and Peress 2012). The present study emphasizes the importance of the relative economy to better explain how voters make vote choices and decide whether to turnout. By using media coverage on the economy, this paper attempts to find the best possible reference points across elections and countries, which relaxes unrealistic assumptions that previous studies have imposed such as universal and/or invariant reference points.

The findings of this research may reassure democratic theorists. Elections offer citizens periodic chances to change policymakers. By shaping voting behavior, the economy greatly appeals to democratic accountability because voters reject their policymakers who lack competence in handling the economy. The power of the voters to throw the rascals out will "not only keep obvious rascals from remaining in office, but also create a pressure on all incumbents to worry about the next elections and make policy with voter review in mind" (Powell 2000: 11).

Second, this research also speaks to the issue of measurement of economic conditions. Aggregate studies have used objective macroeconomic measures such as economic growth, the inflation rate, the unemployment rate, or income change. Studies using survey data use perceived measures of the economy, commonly sociotropic or egotropic ones. One concern arises about how well the perceived measures of the economy reflect the object one and vice versa. Scholars have found gap between these two types of measures. Markus (1988) argues that the survey measures of the economy are contaminated by errors, thus one should substitute national objective economic measures for individual subjective ones. His argument is based on Kramer's (1983) famous 'ecological fallacy', which argues that variation in subjective measures in survey research indicates errors because there should be no variation in the economy in any cross-sectional survey (Kramer 1983). However, Nadeau and Lewis-Beck (2001) suggest that the aggregate subjective measures better performs because they captures perceptions of multiple objective national indicators.

This research shows that voters respond to the economy differently in that they are more sensitive to the relative economy than the absolute one. That bing said, one reason for the gap between the objective economy and the perceived economy may come from that voters use different reference points to form the perceived economy when they look at the objective economic indicators. This research exhibits that voters have a strong tendency to make comparisons, so they tend to look at not only their absolute performance but the relative economic performance. However, previous studies have principally employed the absolute economic measures (temporally-benchmarked) in both aggregate and individual levels of studies, and hence, they have ignored the important way for citizens to form their attitude on the incumbent job performance. Although further studies should verify this, I argue that there is a good reason to believe that using relative economic indicators will considerably reduce the gap between the objective and perceived economy.

Third, the findings indicate that policymakers have to pay particular attention to how their national economic performance compares to that of other yardstick countries. In this regard, some argue that policymakers are incentivized to make downward comparisons by pointing to the performance of countries doing worse than their own. For instance, Olsen (2017) writes that “figures don’t lie, but liars do figure, and the citizen has very little defense in this field, and in other realms of reporting and adverting” (Olsen 2017: 28).

From a campaign perspective, this downward comparison can be a re-electing strategy as it is a heuristic that voters tend to weigh strongly relative to traditional absolute economic performance indicators. Although this downward strategy is not implausible, the findings of this research cast doubt on its usefulness. If this strategy is in place and is reflected in the domestic media as incumbents hope it is, then we should only see the positive values of *Local Growth*, which is the difference between the national economy and reference point economy. That is, at least the domestic media in my sample do not reveal any cue of downward comparisons. Even if my economy is better than country A, if A is not connected, familiar, and similar to my country, there is no reason for the media (or the public) to look at A to make a comparison. Thus comparisons must be based on relevancy, and irrelevant downward comparisons will not appeal to the media or their consumers.

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