

A New Measure of Economic Voting: Priority Heuristic Theory
and Combining Sociotropic and Egocentric Evaluations

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DEDICATION PAGE

To my parents and my wife, Jayoung:
You mean the world to me. Thank you.

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ABSTRACT

It is well-known that a voter's retrospective economic evaluations influence vote choice. A classic debate within the literature on retrospective economic voting concerns whether voters are sociotropic or egocentric when evaluating an incumbent's economic performance. Each side assumes a voter independently considers two perceptual dimensions of economic health, the national economy and one's household financial situation. However, the extant studies overlook the fact that two economic perceptions are correlated. Consequently, our current understanding often fails to account for how sociotropic and egocentric economic evaluations interactively affect vote choice. Moreover, theoretically, voters tend to simplify decision-making when confronted with several alternatives. This notion suggests that voters jointly use sociotropic and egocentric evaluations in a scale rather than use them separately to assess incumbents. Like assuming that voters use a unidimensional scale of ideology though there are several different items that reflect an individual's or a political party's ideology, it is plausible that voters use a unidimensional scale of economic evaluation. On the basis of this notion, this dissertation proposes an improved interval measure of economic evaluation to capture a voter's economic assessment in a single dimension and to provide a comparable economic voting measurement across elections.

To construct the new unidimensional measure, this dissertation proposes a lexicographic or priority ordering of economic evaluations on the basis of priority heuristic theory, which provides a convincing prediction of how voters jointly use two different criteria of economic evaluation. PH theory argues that decision makers place alternatives

along a single dimension by primarily using the first-priority criterion and then using the next priority to supplement the first. In the case of retrospective economic voting, voters may judge the incumbent mainly according to the economic evaluation they value more and use the other to supplement the decision.

According to this theoretical expectation, this dissertation proposes a new unidimensional scale of a voter's economic evaluation. By treating this ordinal variable as nominal in a logistic regression model to predict the probability of an incumbent vote, this dissertation tests its theoretical expectation that voters use the two economic evaluations in a combined way on the basis of priority heuristics. This theoretical expectation is tested with survey data from the elections of five countries (the United States, Britain, Canada, South Korea, and Taiwan). The empirical findings of this research show that voters order economic perceptions and prioritize in sequence, thus merging sociotropic and egocentric retrospective evaluations. A logistic regression model demonstrates that the order of probabilities in voting for the incumbent corresponds with the ordinal measure. Throughout recent elections in five countries, voters used sociotropic and egocentric economic assessments jointly for making vote decisions. Voters depend primarily on sociotropic evaluations as a component of vote choice. However, they incorporate an egocentric perspective as a complementary criterion. This is a universal voting behavior of economic voters examined in this dissertation. This confirms the theoretical expectation on the basis of priority heuristics. This dissertation proposes an economic voting heuristic, an innovative unidimensional measurement combining sociotropic and egocentric assessments that is theoretically stronger than, and empirically as strong as, traditional retrospective voting models.

Chapter 1

Introduction

Lewis-Beck and Stegmaier (2000) begin their impressive review on economic voting by citing Tufte's famous maxim: "When you think economics, think elections; when you think elections, think economics" (Tufte 1978, 65). This phrase straightforwardly tells us the importance of economics when we study elections and why an enormous number of articles about retrospective economic voting have been produced in political science field for the last four decades. According to Lewis-Beck and Stegmaier, easily 500 books and articles have been released with the topic of economic voting (Lewis-Beck and Stegmaier 2009, 629).

A voter's retrospective economic evaluations influence vote choice and it is commonly accepted across countries. However, when it comes to how economics affects voters' evaluations, there have been various controversial arguments. A classic debate within the literature on retrospective economic voting concerns whether voters are sociotropic or egocentric. Sociotropic voters evaluate incumbent performance on the basis of their evaluations of national economic conditions. Egocentric voters assess incumbents on the basis of their personal or household financial situations. Both sides of the argument carry the assumption that a voter independently considers two separate perceptions of economic health, the national economy and one's personal financial situation, when assessing an incumbent's economic performance. As a result, economic voting researchers pay attention to which of a voter's economic evaluations has the greater impact on the decision to reward or punish the incumbent. To test whether economic voters are sociotropic and/or egocentric, these studies include a voter's sociotropic and egocentric

evaluations as two separate and independent explanatory variables in their models. They compare the coefficients of the two variables to determine which economic evaluation is more decisive for vote choice.

However, these perspectives for estimating economic voting may overlook the fact that the two economic perceptions are correlated. Consequently, our current understanding often fails to account for how sociotropic and egocentric economic evaluations interactively affect vote choice. If economic evaluation drives vote choice, there may be not only an independent (or null) effect from each economic evaluation, but also a synergistic effect of the two economic evaluations on vote choice. Moreover, theoretically, voters tend to converge several issues into a single dimension. As Sartori (1976) observes, voters tend to simplify their decision-making process when they are confronted with several alternatives. This notion suggests that voters jointly use sociotropic and egocentric evaluations in a scale rather than use them separately to assess incumbents. Like assuming that voters use a unidimensional scale of ideology though there are several different items that reflect an individual's or a political party's ideology, it is plausible that voters use a unidimensional scale of economic evaluation. That is, this dissertation argues that voters tend to merge two economic evaluations into a single dimension, suggesting an interval measure of a combined economic evaluation.

1.1 Unidimensional Scale of Economic Evaluation and Priority Heuristic

This dissertation shows that voters are more likely to consider these two facets of economic evaluation simultaneously and unite them into a one-dimensional criterion. In order to explain how voters combine sociotropic and egocentric economic evaluations, this dissertation adopts a lexicographic ordering consistent with a priority heuristic (PH) model

(Brandstätter, Gigerenzer, and Hertwig, 2006, 2008), a multi-criteria decision making (MCDM) theory. MCDM theories show how an individual makes a decision when facing multiple conflicting criteria that need to be evaluated by simplifying the criteria. Unlike most MCDM theories assuming that individuals use complete rationality, PH theory shows how an individual who faces more than two criteria to evaluate the same target makes a decision with heuristics rather than complete rationality. It has been conventional wisdom since *The American Voter* (Campbell et al. 1960) and Converse (1964) that the vast majority of voters pay little attention to politics and policies. Thus, it is reasonable to assume that voters do not use complete rationality to make a choice. Rather, voters use heuristics such as a cognitive shortcut (Popkin 1994) to make a rational choice with a low cost.

On the basis of this conventional wisdom on mass political behavior and PH theory, this dissertation develops a PH voting behavior model to explain retrospective economic voting behavior. In a general voting model, voters use priority heuristics to simplify multiple criteria onto a one-dimensional scale to evaluate the incumbent. Specifically, voters order several criteria based on preference and then use the prioritized criteria in sequence until they find the optimal alternative. Based on this rationale, in the realm of retrospective economic voting, voters use the two different economic evaluations together (i.e., both sociotropic and egocentric retrospective evaluations) according to which takes priority on the two economic evaluations, resulting in an ordinal measurement of a voter's combined economic evaluation. The standard survey questions on each retrospective evaluation ask respondents to rate perceived economic conditions as better, worse, or the same as those of the recent past. This new ordinal measure is constructed by pairing the

standard three-response evaluations of sociotropic and egocentric economic conditions. Therefore, this new measure contains nine categories. The nine categories can be ordered in two ways, and it is determined by whether voters are more sociotropic or more egocentric. For example, if voters are more sociotropic than egocentric, voters first establish a priority by relying on sociotropic economic evaluations. Then, they will complement their preference by considering sociotropic economic evaluations but will be limited by the first decision-making choice. In turn, there could be a case that voters prioritize egocentric over sociotropic evaluation. The logic remains the same, only the order changes. Which ordering works better for a given polity is an empirical question.

This dissertation tests whether this new ordinal measure can be used as an interval measure and replace the existing two economic evaluation variables. Applying an ordinal measurement of evaluations in an economic voting model is similar to using an ordinal measurement of political ideology or party identification in a voting behavior model. Ideology and party identification are often measured as an interval variable with a unidimensional scale, though they might more correctly be used as nominal categories or multidimensional. This is because ideology and party identification have strong orders in political party preference. For example, in the United States, those who are extreme liberal are most likely to vote for the Democratic Party, and the probability of voting for the Democratic Party decreases accordingly as the ideology of a respondent moves to extremely conservative. In terms of party identification, strong Democrats are most likely to vote for the Democratic Party, and the probability of voting for the Democratic Party decreases accordingly as the party identification of a respondent moves to strong Republicans. Due to this strong hierarchical order of ideology and party identification in

preferring a certain party, these two variables are used as interval variables in voting behavior models. Nevertheless, goodness of fit statistics, such as the coefficient of determination and pseudo R-square, are lower than for models using the two variables as nominal. Chapter 4 provides this comparison.

By treating this ordinal variable as nominal in a logistic regression model to predict the probability of an incumbent vote, this dissertation tests its theoretical expectation that voters use the two economic evaluations in a combined way that is based on priority heuristics. If the nominal categories follow a pattern consistent with expectations of probability for incumbent voting, the analysis supports the theoretical expectation. In other words, it would explicitly show that one of the unidimensional scales of economic evaluations proposed in this dissertation can be used as an alternative variable instead of the traditional economic evaluation measures.

For empirical tests of the new economic voting measurement, five countries are selected: the United States, Britain, Canada, South Korea, and Taiwan. In the perspective of comparative politics, in order to compare countries, they must have something in common as well as some differences (Przeworski and Teune 1970, 31-46). For more detailed information about political systems that are most similar and most different, see Przeworski and Teune (1970, 31-46). On one hand, these countries share the same political feature. These five countries have adopted a similar electoral system, a single-member district plurality (SMDP), which generally results in two-party systems. Though, except for the United States, they do not have the perfect two-party system, the politics of the countries have been ruled by two major parties. This feature removes obstacles that may weaken economic voting such as coalition government. The literature of economic voting

found that voters have difficulty holding governments responsible for economic performance when they are confused about who is in charge of the responsibility of government, and thus the clarity of responsibility has been considered as the most important factor causing the different magnitude of economic voting (Powell and Whitten 1993).

On the other hand, the contexts differ in systematic ways. The United States, South Korea, and Taiwan have presidential systems, whereas Britain and Canada have parliamentary systems. The United States, Britain, and Canada are institutionalized democracies while South Korea and Taiwan are new democratic countries. The United States and Canada have a federal government while the other three countries have a unified government. The United States, Britain, and Canada have Anglo-Saxon political culture while South Korea and Taiwan have Asian political culture based on Confucianism. Thus, these five countries are analyzed to test whether this new unidimensional measure of economic evaluation can be applied across various political contexts.

In all five countries, the empirical analysis shows that voters place more value on sociotropic economic evaluations than on egocentric ones. So, is it universally true that voters in a democracy are more sociotropic than egocentric? On the basis of this tendency to prioritize sociotropic evaluations, a unidimensional measure of economic evaluation is constructed. Although the accuracy of theoretical expectation differs across countries, through logistic regression models using survey data from the five countries, the order of probabilities in voting for the incumbent corresponds with this measure, providing empirical evidence to support theoretical expectations. Furthermore, by replacing the existing sociotropic and egocentric evaluation variables, the new unidimensional measure

works well in economic voting models for all five countries in terms of goodness of fit statistics such as the coefficient of determination and pseudo R-square. This dissertation proposes an innovative, unidimensional measurement of economic voting by combining sociotropic and egocentric evaluations that is theoretically stronger than, and empirically as strong as, traditional retrospective voting models.

1.2 Outline of the Dissertation

The discussion in this dissertation proceeds as follows. Chapter 2 reviews the extant literature of economic voting with a particular emphasis on how economic voting studies have captured individual-level economic voting in five countries. Specifically, it reviews economic voting literature with a particular focus on whether economic voters are sociotropic and/or egocentric in the five countries. Chapter 3 provides a theoretical foundation for why the unidimensional measure of economic evaluation based on PH theory borrowed from psychology is needed. This chapter shows how decision makers generally reach an optimal choice in a MCDM situation and how this MCDM general theory may be modified to explain retrospective economic voting behavior. Furthermore, it shows the theoretical expectation of how a voter constructs a unidimensional scale of economic evaluation by combining sociotropic and egocentric evaluations. Chapter 4 discusses empirical reasons why the new economic voting measurement proposed by this dissertation is more useful than existing instruments and how to create a new ordinal measure of economic evaluations by combining sociotropic and egocentric economic measures. The three empirical chapters follows Chapter 4. Chapter 5 analyzes US presidential elections from 1980 to 2012 to test the presence and nature of economic voting. By using American National Election Studies (ANES) time series data, this chapter

provides empirical evidence to support the notion of a combined measure of economic voting. Moreover, it shows that an economic voting model using the new unidimensional measure works as well as a model with the traditional economic voting measures in US presidential elections. Chapter 6 examines recent British general elections (2001, 2005, and 2010) and Canadian federal elections (2000, 2004, 2006, 2008, and 2011). This chapter shows that the new unidimensional measure of economic evaluation can be used instead of the traditional measurements in institutionalized democracies other than the United States. The new combined measure of economic voting travels well in different political systems whether presidential or parliamentary system and whether unitary or federalist system. Chapter 7 investigates economic voting in two new democracies, South Korea and Taiwan. By analyzing the 2007 presidential, 2008 legislative, and 2010 local elections in South Korea and the 2004, 2008, and 2012 presidential elections in Taiwan, this chapter provides not only evidence to support that the new measure works well even in new democracies but also evidence of economic voting in East-Asian countries. Finally, the last chapter summarizes the main findings and discusses implications and contributions to the extant literature on economic voting and voting behavior.

Chapter 2 Literature Review

This chapter reviews how retrospective economic voting studies have captured individual-level economic voting. The concept of retrospective economic voting is straightforward: “the citizen votes for the government if the economy is doing all right; otherwise, the vote is against” (Lewis-Beck and Stegmaier 2000, 183). That is, the electorate casts their ballots on the basis of their evaluations of the past performance of an incumbent. Although economic voting has been frequently examined at the aggregate level, the fundamental question of economic voting derives from a phenomenon at the individual level in particular, whether individuals’ vote choices are correlated to their own economic evaluations. To examine this relationship, researchers of economic voting have used survey data that include individual respondents’ subjective evaluations of the economy and their vote choices. A few studies (Kramer 1971; Markus 1992) use other variables such as real personal income per capita to estimate egocentric economic voting because people may or may not be aware of economic conditions on the basis of political knowledge or information. Nevertheless, most studies of economic voting use a voter’s subjective evaluations on the economy as the explanatory variable.

In general, a respondent’s subjective evaluation of the economy is captured by two different points of view, perceptions of the national economic condition and perceptions of the respondent’s own economic circumstances. As a result, the existing studies have estimated two different aspects of economic voting: sociotropic and egocentric economic voting. Throughout the economic voting literature, three terms, *pocketbook*, *egotropic*, and *egocentric*, are used to describe the same idea. In this dissertation, the term *egocentric*

voting is used. According to Kinder and Kiewiet (1981), *egocentric voting* and *sociotropic voting* are defined as follows: “a voter evaluating his or her personal finances is called a *pocketbook voter* or an *egotropic voter* and a voter judging national economic conditions is called a *collective voter* or *sociotropic voter*” (Lewis-Beck and Stegmaier 2000, 191).

Each economic evaluation of a voter is generally captured as a three point scale (*worse, the same, and better*) or a five point scale (*much worse, worse, the same, better, much better*) ordinal variable in most survey data such as National Election Studies (NES). By treating these two economic evaluations as independent explanatory variables of their economic voting models, the existing economic voting studies estimate the impact of a voter’s economic perceptions on political choices. This dissertation, however, argues that these two economic evaluations should be combined into a unidimensional measure. Chapter 3 will provide a theoretical framework for why this research proposes such a measure. Chapter 4 will discuss the problem of the existing measurements of economic voting in detail.

The rest of this chapter focuses on how researchers of economic voting have estimated the impact of a voter’s economic evaluations of vote choice by using these two individual economic evaluations in the United States and other countries (i.e., Britain, Canada, South Korea, and Taiwan).

2.1 Sociotropic and Egocentric Economic Voting in the United States

The United States is the country where economic voting has been most frequently examined in a variety of forms. The early works have found that good economic performance under a government has a positive impact on the success of the incumbent

party in congressional elections (Kramer 1971), on presidential popularity (Mueller 1970), and presidential vote choice (Fiorina 1981). Building on these works, studies have found evidence for economic voting in the United States. Thus, the question is not whether economic voting occurs in the United States, but which economic evaluation or how the economy affects a voter's decision.¹ The main inquiries of economic voting studies have been: 1) whether voters consider their own economic fortunes (egocentric voting) or those of the country as a whole (sociotropic voting); 2) whether voters look to the past (retrospective) or the future (prospective); 3) how institutional dynamics change economic voting; 4) whether economic voters are homogeneous or heterogeneous (characteristics of economic voters); and 5) whether there is a difference between congressional and presidential elections.

Despite this matter, the focus here is the debate over sociotropic and egocentric economic voting. Since researchers of economic voting believe that a voter uses two different evaluation criteria to judge an incumbent government's economic performance, existing studies of economic voting have treated sociotropic and egocentric economic voting as two different performance voting behaviors. This leads researchers of economic voting to examine whether economic voters are more sociotropic or more egocentric. As described, this examination is conducted by using a voter's sociotropic and egocentric economic evaluations as the main independent variables and an incumbent vote choice as the dependent variable in logistic regression models.

¹ However, some studies such as Evans and Andersen (2006) and Hansford and Gomez (2015) cast doubt on conventional wisdom, arguing that economic voting is not exogenous but endogenous. That is, economic perceptions are considerably affected by other factors such as partisan attachment.

In general, the consensus on this debate is that there are stronger sociotropic than egocentric effects on vote choice in the general voting population (Lewis-Beck and Stegmaier 2010). The preponderance of studies find evidence that American voters place more value on national economic conditions than on their own situation when they evaluate the performance of incumbents (Fiorina 1981; Kiewiet 1983; Lewis-Beck 1988; Kinder, Adams, and Gronke 1989; Alvarez and Nagler 1995; 1998; Lewis-Beck and Stegmaier 2000; 2010; Noporth 2004). However, this does not mean that American voters exclusively rely on their sociotropic economic evaluations. As some studies (Markus 1992; Lanoue 1994) have found, American voters also consider their own economic fortunes when assessing the incumbent's economic performance. Moreover, Gomez and Wilson (2001) found that high sophisticates are more likely to take their own financial evaluation into account when they vote.

The traditional view from sociotropic voting proponents argues that national economic conditions play a larger and more decisive role than those of personal economic conditions in vote choice. Fiorina (1978, 1981) analyzed the 1956-1974 NES surveys and found that American economic voters are more sociotropic than egocentric, although he indicated the statistically significant effects of personal economic conditions. Kinder and Kiewiet (1979; 1981) found that sociotropic effects are greater than those of personal economic conditions. Kiewiet (1983) reinforced this conclusion in a more extensive treatment of data from 1960 to 1980. Following these fundamental studies, Kinder et al. (1989) conducted a case study of the 1984 presidential election to find out whether US voters are concerned more about their own economic well-being (the egocentric hypothesis), the economic well-being of the group to which they belong (the group

hypothesis), or the national economic condition (the sociotropic hypothesis). They concluded that a “person, group, and nation constitute related but distinct arenas of economic assessments and that, by a wide margin, assessments of national economic well-being mattered most to voters’ decisions in 1984” (491). Alvarez and Nagler (1995; 1998) also supported this sociotropic voting tradition. Alvarez and Nagler (1995) found a strong effect of a voter’s assessment of the national economy on which candidate they chose in the 1992 presidential election but no statistical influence of the voter’s judgement of personal financial condition. In addition, with their subsequent research on the 1996 presidential election, Alvarez and Nagler consistently found that voters use national economic performance as their primary decision criterion in presidential elections. Recent studies (Duch, Palmer, and Anderson 2000; Nadeau and Lewis-Beck 2001; Norpoth 2004; Lockerbie 2008; Abramson, Aldrich and Rohde 2010) on retrospective economic voting also show there is dominant tendency toward sociotropic evaluation rather than personal financial evaluation. That is, American electorate places more value on societal economic conditions than on individual financial situations.

As an explanation of this strong sociotropic economic voting tendency, some studies (Feldman 1984; Kramer 1983; Norpoth 1984) characterize American economic voters as altruistic. However, Sigelman, Sigelman and Bullock (1991, 129) claim that “pocketbook voting displays little independent impact because economic perceptions and attributions are epiphenomena strongly biased by the voter’s preexisting political commitments.” In this sense, Grafstein (2009) argues that pocketbook voting is weak because anticipated policy has already been incorporated in household consumption plans,

whereas sociotropic variables are more powerful because they determine the relative value of partisan policies in the longer term.

However, some scholars (Markus 1992; Lanoue 1994) found evidence for egocentric economic voting in the US context, though they do not dismiss the effect of sociotropic evaluations. They argue that an individual considers the two economic evaluations simultaneously when assessing economics relative to voting. Markus (1992, 833) argued that “sociotropic effects remain substantial... [and] pocketbook effects are also robust: controlling for fluctuations in the national economy, perceived changes in a voter’s personal financial well-being influence the voter’s electoral calculus significantly.” Furthermore, Lanoue (1994) demonstrated that the egocentric and sociotropic effects on a voter’s evaluation of the economy are both observed. One does not dominate the other, although the latter is slightly greater than the former. These results show that American voters are concerned not only about the national economy but also about their pocketbook conditions.

In turn, some studies found that economic voters are not homogeneous, but heterogeneous, suggesting that whether voters are sociotropic or egocentric depends on voter characteristics such as political sophistication (Sniderman, Brody, and Tetlock 1993; Delli Carpini and Keeter 1996; Goren 1997; Krause 1997; Gomez and Wilson 2001, 2006; Godlbout and Bélanger 2007) or gender (Welch and Hibbing 1992; Kam 2009). Some studies claimed that low sophisticates would be more likely to rely on their personal experience when casting their votes (Delli Carpini and Keeter 1996; Goren 1997; Krause 1997). Other studies claimed the opposing argument. Sniderman, Brody, and Tetlock (1993, 170-183) and Gomez and Wilson (2001; 2006) argued that less politically sophisticated

individuals use retrospective national conditions when casting their votes, whereas more sophisticated individuals use pocketbook evaluations. However, Godbout and Bélanger (2007), pointing out a measurement problem, showed that there was no difference in the strengths of sociotropic and egocentric economic voting between high and low sophisticates. In terms of gender, Welch and Hibbling (1992) reported that men are more likely to be egocentric voters than women are, and the degree of sociotropic voting is stronger for women because they see the world as being more interconnected than men do. Kam (2009) reexamined this idea and found that there is no difference in the magnitude of sociotropic economic voting between men and women. The issues of heterogeneous economic voters are not the point of this work, but are important to help grasp the debate of sociotropic and egocentric voting.

In sum, there is a consensus that American economic voters are more sociotropic than egocentric. Empirical studies, however, show that voters do not completely ignore their own financial conditions when making political choices. Some citizens such as high sophisticates take their personal economic conditions into account when making vote choices. More important, in some elections, an individual's egocentric economic evaluation shows a significant effect on voting decision. This may occur due to a highly skewed sample distribution of voters' economic evaluations in some elections. Often, voters share similar assessments of the economy that is, voters recognize good times and bad times, economic growth, stability, or financial crisis. This case may cause a correlation of two economic evaluations, which makes the estimate of one economic evaluation's impact on vote decisions less precise. Therefore, the existing single-election studies may

lead to some scholarly disagreement in the debate of sociotropic and egocentric economic voting.

2.2 Sociotropic and Egocentric Economic Voting in Other Countries

Economic voting is not a unique feature of American voters. It is frequently examined in other democratic countries, and evidence for economic voting is observed across countries (Lewis-Beck 1988; Lewis-Beck and Stegmaier 2000; Duch and Stevenson 2008; Nadeau, Lewis-Beck, and Bélanger 2013). The extant literature shows that a voter's retrospective economic assessments have a significant impact on incumbent vote choices in the four countries (i.e., Britain, Canada, South Korea, and Taiwan) that this dissertation mainly examines. In particular, retrospective sociotropic economic evaluations consistently matter across elections in the four countries, whereas the impact of egocentric evaluations on voting decisions vary across these countries. Like the literature of American economic voting, studies of those four countries mainly employ sociotropic and/or egocentric economic evaluations as the explanatory variable.

Britain and Canada

Economic voting is well discussed in the literatures of British and Canadian political behavior. The two countries share similar political characteristics in terms of electoral systems, single-member district plurality (SMDP), and advanced democracy, but they are different in terms of the number of political parties and political cultures. Due to these disparities, the voters of the two countries have shown different economic voting behavior.

First, British voters show similar voting behavior to American voters, and this economic voting behavior is supported by an abundance of economic voting studies. Since Butler and Stokes (1969) launched economic voting studies of the United Kingdom, several studies (Butler and Stokes 1974; Miller et al. 1990; Norpoth 1992; Sanders 1996; 2003; Denver 2003; Clarke et al. 2004) have confirmed that a voter's subjective economic evaluations have significant impacts on vote choice in British general elections. Nevertheless, the existing studies found different evidence for the question of which subjective economic evaluation matters more on an incumbent vote.

In the early stage of economic voting studies, Butler and Stokes (1974) provide evidence of egocentric economic voting, arguing that a voter's personal financial conditions have significant impacts for the mass of electors and their political attitudes. Miller et al. (1990) and Denver (2003) also found evidence supporting both sociotropic and egocentric economic voting. They noted that although the magnitude of sociotropic economic voting is greater than that of egocentric voting, a voter's egocentric evaluation definitely matters. However, other studies fail to find supportive evidence for egocentric voting. By analyzing the 1987 British general election, Heath et al. (1991) found no significant impact of egocentric economic evaluations on vote choice. Clarke et al. (2004) also fail to find evidence of egocentric voting yet find a significant impact of sociotropic economic evaluations on vote choice in the 2001 British general election. Therefore, there is no consistent conclusion regarding the impact of a voter's egocentric economic evaluation on the vote in British general elections. A voter's sociotropic economic evaluation shows a consistent impact on vote choice. Analyzing the effect of sociotropic economic evaluations on vote choice in five general elections between 1974 and 1997,

Sanders (2003) found evidence for sociotropic economic voting, concluding that even for strong party identifiers, sociotropic economic evaluations affect their support for the governing party.

Second, the propensity of economic voting in Canada looks weaker than that in the United States and Britain. Fewer economic voting studies have been conducted at the individual-level in Canada, compared with the United States and Britain. Canadian politics are unique as compared with American and British politics (Clarke, Kornberg, and Scotto 2009, 17) due to the status of Quebec within the Canadian federal system and the longstanding appearance of significant third parties. The supporters of the Bloc Québécois have different voting behaviors from Canadians in other regions. For example, preference over issues of sovereignty for Quebec highly affects vote choices of the supporters of the Bloc Québécois. These features of Canadian politics may hinder Canadian voters from translating their evaluations of the national and personal economy into choices among parties. Moreover, Canadian voters are offered for more varied choices compared with American and British voters because minor parties have earned significant seats in Canada's legislature.

Canadian economic voting studies show no harmonious results. Some have found evidence for both sociotropic and egocentric economic voting, whereas others have found evidence for only sociotropic economic voting. In addition, some studies show that neither of the two economic evaluations affect Canadian vote choice. For example, Clarke and Kornberg (1992) found that both sociotropic and egocentric economic evaluations have strong explanatory power to predict vote choice according to their analysis of national cross-sectional and panel surveys conducted from 1983 to 1990. However, their results

show that Canadian voters are more influenced by their national economic evaluations than personal financial evaluations. Blais et al. (2002b) also show that both sociotropic and egocentric economic evaluations have moderate effects on individual vote choice in the 1997 Canadian federal election among voters outside Quebec. In turn, by limiting analysis to sociotropic evaluations, C. D. Anderson (2008) found that a voter's sociotropic economic evaluation had a significant impact on vote choice in the 1993 and 1997 Canadian federal and provincial elections. Extending the dataset, however, led C. D. Anderson (2010) to a mixed result. Taking all four types of economic evaluations (sociotropic retrospective, sociotropic prospective, egocentric retrospective, egocentric prospective) into account, his result shows that sociotropic retrospective evaluation is significant only in two (1997 and 2006) of six federal elections (1988, 1993, 1997, 2000, 2004, and 2006), and egocentric retrospective evaluation is significant only in the 1993 and 2000 elections.

More recent studies argue that the economy becomes a weak determinant for behavior of Canadian voters. Clarke et al. (2009) claim that the strong economy helped the Liberal Party in 2006 but that the economy was not an important issue in 2004. That year, selected position issues such as same-sex marriage and international relations with the United States received considerable attention by politicians and the media (Clarke et al. 2009, 44). In addition, Gidengil et al. (2012) argues that the economy was not a crucial factor for Canadian voters in recent elections because the economy cannot explain Liberal dominance through the 2000 election and the decline of the Liberal Party in the next three elections. She reports that the economy had a strong effect on the probability of voting for the incumbent in 2006 but not in 2004 and only modestly in 2000 and 2008. From these

findings, it seems that the impact of the both sociotropic and egocentric economic judgments on vote choice declined in Canadian voting behavior in recent elections. Moreover, unlike the United States and Britain, there is not enough evidence that Canadian economic voters are more sociotropic than egocentric.

South Korea and Taiwan

Economic voting in South Korea and in Taiwan share a similar tendency. The two countries are similar in terms of political systems, democratization, and the political and economic environments. These similar political features may lead the two countries to exhibit a similar economic voting tendency. Around the late 1980s, South Korea and Taiwan went through democratization movements and established democratic governments. In elections following democratization, a voter's economic evaluations did not appear to have a significant impact on vote choice in the two countries, but economic evaluations have begun to play an important role in party choice in recent elections. In addition, a voter's sociotropic economic evaluation has consistently showed a significant impact in recent elections in both countries, but egocentric evaluation has not.

In South Korea, a series of efforts has been made to estimate the effect of a voter's economic evaluations on vote choice. Initially, Kim (1993) and Pak (1993) analyzed the 1992 presidential election and found that economic evaluations and issues did not affect voting decisions. Kim (1993) argues that the regional cleavage dominated voting behavior of Koreans. Korean voters have strong party attachment to Korean political parties on the basis of regionalism. Thus, the key issue is not what a candidate has done or promises for the future, but rather where the candidate's hometown is. Korean voters tend to strongly

prefer a candidate who has the same hometown as they do. This hinders Korean voters from thinking about other issues such as the economy. By analyzing the 1997 presidential elections, Lee (2000) and Hwang (2000) also failed to find substantive effects of the economy on vote choice. Lee and Glasure (2012), however, found a significant effect of sociotropic economic evaluations on vote choice in the 2002 Korean presidential election, though they failed to find evidence for egocentric economic voting. Kwon (2008) and Kang (2012) also found evidence for sociotropic economic voting in the 2007 presidential election. Along this line, Choi (2007) analyzed the three Korean presidential elections of 1992, 1997, and 2002. She found that sociotropic voting was observed in the 2002 presidential election but not in the 1992 and 1997 presidential elections. Egocentric voting was not detected in any of the three elections. Overall, the extant studies of economic voting in South Korea show that sociotropic economic voting becomes stronger as time goes by, but egocentric voting has been unobserved, even in recent elections.

This tendency regarding economic voting has also been observed in Taiwan. There was an academic consensus that foreign affairs are major determinants of Taiwanese vote choices (Li, James, and Drury 2009; Lacy and Niou 2012). Specifically, policy and attitude toward the diplomatic relationship with mainland China determine the main political cleavage of Taiwan. This political cleavage is strengthened by the ethnic cleavage between Taiwanese who came from mainland China and native Taiwanese. The former supports a foreign policy of reunification, whereas the latter prefers separation from China. Like regionalism in South Korea, this foreign policy issue has dominated the voting behavior of the Taiwanese.

Early studies of economic voting in Taiwan failed to find supportive evidence for any type of economic voting. For example, Hsieh, Lacy, and Niou (1998) found no evidence for any effect of retrospective economic evaluations on vote choice in the 1996 Taiwanese presidential election. Their follow-up study in 2003 also shows no effects of economic evaluations on vote choice in the 2001 Taiwanese Legislative Yuan elections. However, studies that analyze more recent elections find supportive evidence for economic voting. Gomez and Wilson (2006) analyzed the 2001 Taiwanese Legislative Yuan elections and found that a voter's sociotropic economic evaluation has a significant impact on vote choice, although egocentric evaluation does not. Choi (2007) also found evidence for sociotropic voting in the 2004 Taiwanese presidential elections. She likewise failed to find evidence for egocentric voting. In turn, Lacy and Niou (2012) examined the 2008 presidential election and found that a voter's sociotropic economic evaluation has a significant impact on vote choice only for highly sophisticated voters while egocentric evaluation does not for any sophistication level of voters. In short, the previous studies of economic voting in Taiwan presented that sociotropic economic voting began to be observed after the 2000s but found no strong and consistent tendency, and egocentric voting was not observed.

[Table 2.1 about here]

Finally, this dissertation analyzes economic voting with new measurements in the five countries. Therefore, it is important to discuss similarities and differences of the five countries. The five countries have a similarity in terms of electoral systems. They have adopted single-member district plurality (SMDP) to elect representatives. Although South Korea has a mixed system, most of representatives (246 out of 300) are elected under a

SMDP rule. This feature allows a researcher of economic voting to avoid the issue of dealing with a coalition government that weakens economic voting (Powell and Whitten 1993).

The five countries, however, differ in terms of several political and economic features, which enables a researcher to compare the appropriateness and effectiveness of new economic voting measurements across diverse environments. First, in terms of levels of democratic consolidation, the United States, Britain, and Canada are classified as institutionalized democracy whereas South Korea and Taiwan as new democracy. As Duch (2001) argues, economic voting may differ between institutionalized and new democracies because voters are less familiar with using elections as sanctioning devices in new democracies. Second, the five countries are divided into two groups, developed and developing countries in terms of levels of economic development. The United States, Britain, and Canada are developed countries whereas South Korea and Taiwan are developing countries. The issue salience of the economy is often stronger in developing countries than in developed countries because people in developing countries are more likely vulnerable to economic fluctuation (Radcliff 1992; Singer 2011). Third, the five countries are divided into presidential systems (the United States, South Korea, and Taiwan) and parliamentary systems (Britain and Canada). Fourth, the United States and Canada have decentralized governments based on federalism whereas Britain, South Korea, and Taiwan have centralized governments. Fifth, the five countries have been dominated by strong two major parties that do not allow a coalition government, but Canada and South Korea have had a significant third party. Sixth, in terms of political culture, the United

States, Britain, and Canada are established on the basis of Anglo-Saxon culture whereas South Korea and Taiwan on the basis of East-Asian culture.

2.3 Conclusion

This chapter reviewed economic voting literature with a particular focus on sociotropic and egocentric voting in the United States, Britain, Canada, South Korea, and Taiwan. Though there are some differences in the magnitude of economic voting among the five countries, the common empirical finding is that the impact of a voter's sociotropic evaluation of vote choice is greater and more consistent than that of an egocentric evaluation. This does not mean that a voter's egocentric evaluation has no impact on vote choice, but egocentric voting has been inconsistently and weakly observed across elections.

In terms of methods to examine the impact of the economy on an individual vote choice, a voter's subjective economic evaluations have been used as an explanatory variable because it is general consensus that voters make a decision not based on actual economic conditions but their subjective perceptions on the economy (Lewis-Beck and Paldam 2000). In addition, as Markus (1988) points out, research focusing on a single election is not able to estimate the impact of objective economic conditions because the objective conditions do not differ between voters. In contrast, perceptions of the economy are different between individuals for a given election, which provides the promise of greater empirical traction (Hansford and Gomez 2000). As a result, studies of retrospective economic voting commonly use survey items to measure a voter's subjective economic evaluations. A voter's subjective economic evaluations are captured by two separate evaluations on the economy, sociotropic evaluation and egocentric evaluation. By using

these two conventional measures of economic evaluations, the extant studies treated the two evaluations as separate and independent explanatory factors that affect the probability of an incumbent vote choice. Nevertheless, two studies (Killian, Schoen, and Dusso 2008; Dettrey 2013) attempted to combine these two variables. They create a nominal measurement of economic evaluations by integrating sociotropic and egocentric evaluations to compare voters who have financial losses relative to the national economic conditions with those who have financial advantages relative to the national economic situation. Except for these two studies, the existing studies have used a voter's sociotropic and egocentric economic evaluations as separate and independent explanatory variables. Chapter 4 will discuss this measurement issue in detail.

Unlike the extant studies of retrospective economic voting, this dissertation proposes a unidimensional measure of economic voting, arguing that the two economic evaluations should be integrated into a unidimensional scale measure for theoretical and empirical reasons. The next chapter will discuss theoretical reasons why the united measure of the two economic evaluations is more appropriate to explain an incumbent vote choice in relation to economic evaluations.

Table 2.1 Comparison of Five Countries

Electoral Systems	Single member district plurality (the United States, Britain, Canada, and Taiwan)	Mixed system (SMDP+PR) (South Korea)*
Democratic consolidation	Institutionalized democracy (the United States, Britain, and Canada)	New democracy (South Korea and Taiwan)
Economic Development	Developed countries (the United States, Britain, and Canada)	Developing countries (South Korea and Taiwan)
Government types	Presidential systems (the United States, South Korea, and Taiwan)	Parliamentary systems (Britain and Canada)
Government centralization	Federalism (the United States and Canada)	Centralism (Britain, South Korea, and Taiwan)
Party systems	Two-party systems (the United States, Britain, and Taiwan)	Multi-party systems (Canada and South Korea)
Political culture	Anglo-Saxon (the United States, Britain, and Canada)	East-Asian (South Korea and Taiwan)

*Note: South Korea has a mixed electoral system, but most seats of the Congress are elected under a SMDP rule (246 out of 300 seats).

Chapter 3

Unidimensional Scale of Economic Voting and Priority Heuristic Theory

The extant literature of economic voting has assumed that voters separately or independently use sociotropic and egocentric economic evaluations to assess the performance of their political leaders. Thus, the existing studies of economic voting have treated those two evaluations as separate and independent measurements to gauge a voter's assessments and have focused mainly on whether each economic evaluation has a significant effect on vote choice and, if so, which one has a greater impact on a voter's judgment of the incumbent leaders. However, this dissertation argues that the two evaluations should be used as a unidimensional measurement for theoretical and empirical reasons. In particular, this chapter discusses the theoretical reason the two economic evaluations should be combined into one.

It is assumed that voters jointly use sociotropic and egocentric evaluations for their vote choice because voters tend to narrow down multiple dimensions into one when having several dimensions to assess (Sartori 1976). Just as a person's ideological position on the left-right scale is constructed of different political attitudes and opinions toward various ideological issues, not by a sole issue, a person's economic evaluation is more likely to be determined by considering sociotropic and egocentric economic evaluations together rather than by selecting one of the two evaluations. On the basis of this assumption, this chapter provides a theoretical expectation to construct a unidimensional measurement of economic evaluations by combining the two different economic evaluation measurements.

In order to make a theoretical explanation of how voters jointly use the two different economic evaluations, this dissertation refers to the *priority heuristic* (PH) theory, a *multi-criteria decision making* (MCDM) theory, developed by psychologists, Brandstätter, Gigerenzer, and Hertwig (2006). Priority heuristic theory shows how an individual facing more than two criteria to evaluate the same target makes a decision with heuristics rather than complete rationality. In this research, PH theory is employed to create a unidimensional economic evaluation scale in that economic voting can be considered as a situation of MCDM, in which an individual faces multiple conflicting criteria that need to be evaluated in making decisions, and voters tend to use heuristics rather than complete rationality, in which voters simplify various criteria into one.

The discussion in this chapter proceeds as follows. First, it explains why economic voting is a form of MCDM and why PH theory is used to construct a unidimensional economic voting model. Then, referring to PH theory, a voting decision model under multiple criteria is proposed to demonstrate how voters make a decision when having conflicting criteria to evaluate. According to this decision model, voters make economic voting decisions not on two separate or independent dimensions but on a unified dimension. The final and most important section of this chapter proposes two possible unidimensional scales of economic evaluation by combining the two different economic evaluations.

3.1 Economic Voting as Multi-Criteria Decision Making

Economic voting is an example of MCDM, which may be defined as “making decisions in the presence of multiple, usually conflicting, criteria” (Yang and Xu 2001, 3). In our daily lives, we often face a situation in which we make a decision with multiple conflicting criteria, such as buying a car or lunch. For example, when purchasing a car,

there would be several criteria such as price, performance, comfort, and safety. Thinking of two criteria, a person may prefer to purchase the cheapest but safest car, which is the optimal choice. The least preferred choice is the most expensive and the least safe car. Likewise, when buying lunch, an individual may prefer the tastiest alternative at the lowest price and never select the worst choice, the most tasteless and expensive meal. However, in most cases, it is difficult to get the optimal choice (the cheapest but the safest) because the two criteria we consider often conflict with each other. When the number of criteria grows, including vehicle performance, comfort, and so forth, the consumer's choice becomes more difficult to make.

Likewise, when voters make a decision regarding approval or disapproval of the economic performance of their incumbent political leaders, they face two different criteria, the effects of the incumbent government's economic policies on the national economy and the effects on their own pocketbooks. If the two criteria are evaluated identically, a voter does not have difficulty making a decision. Positive evaluations for both economies are the optimal case, and negative evaluations for both economies are the worst case. Voters are likely to approve of the incumbent when they have the optimal case and to disapprove under the worst case. However, those two criteria to evaluate the incumbent's economic performance often conflict. Regardless of the consequence of an economic policy on the national economy, the policy's impact on personal pocketbooks may differ according to the economic characteristics of an individual, such as his or her type of job and level of wealth. This may lead a voter to face a situation of whether to approve or disapprove of the incumbent's economic performance according to two conflicting assessments, the different effects of the incumbent's economic policies on the national and the personal economies.

Thus, a voting decision whether to credit or blame the incumbent on the basis of his or her economic performance can be regarded as a MCDM situation.

Moreover, evaluations of economic performance may include more than the two components (retrospective sociotropic and egocentric evaluations) frequently included in survey questionnaires. Egocentric or more localized evaluations may include the economic situation of family, friends, co-workers, and residential locality. National or broader evaluations may include assessments of economic prospects for business and/or labor generally, industrial sectors of trade, and so forth. In other words, even the two questions appearing in surveys ask respondents to summarize a set of evaluations into a trichotomy of better, same, or worse for each item. Estimations of overall economic performance probably include more factors than the two items from survey questionnaires.

A common theme among MCDM theories is that an individual tends to set a series of alternatives in a hierarchical order by merging all criteria to make a decision rather than separately using each criteria. Therefore, if one accepts that a voting decision based on economic evaluations is a MCDM situation, it is more reasonable to assume that voters make choose whether to approve or disapprove the incumbent leader by considering both sociotropic and egocentric economies together than by separately using each evaluation. Sartori (1976) claims that although there are many different issue and cleavage dimensions, it is hard for a voter to consider all of them to make a voting decision. Therefore, it is a common tendency for voters to narrow down multiple dimensions into an ordered unidimensional scale whether the voters are rational or use heuristics. Sartori (1976) calls it *position perception*, which means that voters place themselves and the parties in some kind of spatial ordering because “when the voter is confronted with five or more practices,

the information costs and the indeterminacies multiply exponentially, and some drastic simplification becomes a sheer necessity” (Sartori 1976, 341).

In voting research, this idea has been adopted in many cases. Measuring ideology is one example. When scholars of voting measure the ideology of a voter, a political party, or a candidate, they typically use a unidimensional scale rather than separate items. Researchers assume that voters combine several different dimensions that represent ideology into one, rather than separately using each dimension to cast a ballot. Voters are rarely informed and resource-rich as to make complete and nuanced evaluations (Popkin 1994). Ideological evaluations have several different dimensions or factors. Criteria constructing an ideological evaluation may conflict with one another. For example, a voter can put himself or herself on the left in terms of social welfare policy but on the right in terms of regulation of business. Nevertheless, researchers of voting use a unidimensional scale to measure ideology. Evaluating economic performance shares such characteristics. Hence, similar to the case of measuring ideology, it is reasonable to measure a voter’s economic evaluation not on two separate and independent scales but on a unidimensional scale.

3.2 Vote Choice and the Priority Heuristic Theory

A unidimensional scale of economic evaluations can be constructed by combining the two different economic evaluations to estimate the probability of voting for an incumbent leader. The question is how to combine the two different dimensions. The idea is to merge the two economic evaluations into one consistent with existing theories of MCDM.

As seen from the examples, it is typically difficult to obtain the optimal choice when there is more than one criterion that can conflict. Various MCDM theories have been developed to solve these puzzling situations. In general, MCDM models commonly claim that individuals construct a subset of alternatives according to the preference of criteria that are based on rationality and choose the best among them when they cannot find the optimal choice. However, the question is how to construct a subset of alternatives that has a rank order. On this matter, various MCDM theories provide different solutions. Most theories of decision making under multiple criteria such as expected utility theory (von Neumann and Morgenstern 1944), prospect theory (Kahneman and Tversky 1979; 1992), theories of risk taking (Wigfield and Eccles 1992), and analytic hierarchy process (Saaty 1980) rely on two processes, weighting and summing. This idea is based on the assumption that conflicts between criteria can be solved by making trade-offs, which can be made through weighting and summing process in a rational way. Although specific ways of weighting and summing differ across theories, basically they assume that a decision maker gives a simple unit weight such as +1 or -1 to each criterion corresponding to a preference. Then, the decision maker aggregates the weighted utility across criteria to make an order of alternatives and chooses the best alternatives in the order (Brandstätter et al. 2006). These MCDM theories incorporating weighting and summing are probably the most widely used in the literature of MCDM.

However, it is not sensible to employ those theories to predict or explain a rank-and-file voter's decision for two reasons. First, most of these MCDM theories are built to provide an individual with a normative decision-making guide when facing a problem, rather than to provide a prediction or explanation of actual behavior. Second, though some

of those theories do provide a prediction or explanation of actual behavior, they assume decision makers come from an environment of high levels of information. They are not appropriate for ordinary voters because they presume that individuals dedicate substantial time and effort to making a rational decision. This assumption might be appropriate for political leaders who make economic decisions or for elites who make normative and rational choices. Since *The American Voter* (Campbell et al. 1960) and Converse (1964), it has been conventional wisdom that the vast majority of voters pay little attention to politics and policies and thus they have very limited information with which to make a vote choice.

Furthermore, even in terms of an informed actor's decision making, the weighting and summing processes have been criticized by several scholars (Dawes, 1979; Payne, Bettman, and Johnson 1993; Gigerenzer and Goldstein 1996). Specifically, Payne et al. (1993) and Hogarth and Karelaia 2005) theoretically and empirically found that people seldom use the summing process. Rather, they use ordering (a simple form of weighting) without summing. Simple ordering of criteria rather than assigned weighting is based on the assumption that an individual makes a decision not with complete rationality but with heuristics. Regarding the theory of bounded rationality (Simon 1982), which is constructed by an empirical analysis of the cognitive processes that lead to a choice, studies of simple heuristics are argued to provide a more realistic account of human decision making (Drechsler, Katsikopoulos and Gigerenzer 2013).

This argument also applies to an ordinary individual's voting behavior because voters are not totally ignorant and do not make choices that are based exclusively on their social background or party identification. It would be difficult to argue that voters use

complete or nearly complete rationality. Fluctuations in electoral outcomes and even in party identification distribution across elections implies that voters are aware of current issues or short-term conditions like the economic conditions and are influenced by them. As Key (1966, 7) argues, “many individual voters act in odd ways indeed; yet in the large the electorate behaves about as rationally and responsibly.” Thus, the question is how voters make a rational decision even though they do not devote much effort to tracking policies or political issues. On this matter, Popkin (1994) explains how voters make a rational decision even though their political awareness is low by proposing a concept of low information rationality. He argues that low information rationality is gained in voters’ daily lives, through the media and personal interactions, and voters use that simple rationality to evaluate candidates and make electoral choices. In other words, voters take a cognitive shortcut by using information they attain through their daily lives.

Along this line, economic voting is a form of voting behavior that uses a cognitive shortcut. As Fiorina argues, an economic voting decision is made mainly by the voter’s retrospective evaluation, which is “a cost-cutting element in a citizen’s voting decision” (Fiorina 1981, 12). According to retrospective voting theory, a voter chooses among parties based on what he or she already knows. Thus, a voter does not need to make an effort to collect new information and is able to reduce the cost of voting. Furthermore, among several cognitive shortcuts, as Downs (1957) argues, retrospective evaluations about the incumbent have been considered as one of the powerful and frequently used tools of the typical voter who uses a cognitive short-cut but wants to make a rational decision. Economic voting is a decision using a cognitive short-cut or heuristics in terms of MCDM and similar decision theories. Hence, in order to explain or predict ordinary voters’ decision

making under multiple criteria, in particular in terms of economic voting, it is reasonable to use a MCDM theory based on a heuristics assumption rather than a theory based on complete rationality.² Studies of economic voting neither require nor assume that voters have accurate assessments of the unemployment and inflation rates or other important indicators of the national economy or, except for events, that voters have more than a general sense of their own economic status.

Two principle theories solve MCDM situations by using heuristics, PH and take the best heuristics (TTB) (Gigerenzer and Todd 1999). PH theory assumes that decision makers use all or some of criteria given to them to make a choice, while TTB theory, or “simple heuristics,” premises that individuals use only the best criteria and ignore the rest. The existing literature on economic voting follows the TTB model. Although the two theories share most assumptions, PH seems best to explain and predict voting behavior that is based on economic evaluations. First, Rieskamp and Hoffrage (1999) examined when people use “simple heuristics” and found that more participants use TTB to make a choice under high time pressure than under low time pressure. Voting decision is a choice under a time limit, but it is not under high time pressure because voters can have, at minimum, more than a month to think about candidates and parties. Second, voting for elected officials is decision making involving a funnel of causality (Campbell et al. 1960) that includes many influences (Dalton 2008, 172). A voting decision is seldom determined by a sole factor. Many elements are acknowledged as determinants of voting such as party identification, socioeconomic background, retrospective evaluations, issues, and ideology,

² An important issue in the literature on MCDM is how to handle the independence of irrelevant alternatives assumption. For the investigation presented here, there are only two empirical assessments of the economy available in survey research, so this knotty problem does not arise.

and these elements are highly correlated and influenced by one another. Finally, the economic voting literature finds that both a voter's sociotropic and egocentric economic evaluations are simultaneously significant in an election. This implies that voters use both forms of economic evaluation, not merely relying on one cue to make decision. Due to these three assumptions, a lexicographic ordering better explains and predicts a voter's decision-making process.

PH theory, proposed by Brandstätter et al. (2006), is based on the concept of bounded rationality (Simon 1957) which is that human rationality is bounded so that decision makers always build simplified models of complicated choices to diminish the cost of necessary calculation. However, by using heuristics, decision makers reduce cost and effort to make decisions even though they reach decisions similar to those based on fully rational calculation. PH theory is not only empirically supported by Brandstätter et al. (2006) and Fiedler (2010) but also theoretically bolstered by Drechsler et al. (2013). Originally, Brandstätter et al. (2006) used PH theory to explain how an individual chooses between gambles by using four attributes: the maximum gain, the minimum gain, and their respective probabilities (for losses). To make the best choice, an individual goes through three steps: the priority rule, stopping rule, and decision rule. In the example of Brandstätter et al. (2006), in the priority rule, a gambler goes through reasons (criteria) in the order of minimum loss, probability of minimum loss, and maximum loss. In the stopping rule, the gambler stops examination if the minimum losses differ by one tenth (or more) of the maximum loss; otherwise, he or she stops examination if probabilities differ by one tenth (or more) of the probability scale. In the decision rule, the gambler chooses the gamble that is more attractive in the attribute (loss or probability). In the example of Brandstätter et al.

(2006), PH theory was developed to explain a specific situation of choosing between two gambles. Thus, it should be translated into more generalized ideas and terms to be applied to explain economic voting behavior. The distinguishing feature of PH theory is that it assumes an individual places criteria in a preferential order and compares decision options on only one cue dimension at a time in the sequential order of the criteria. Unlike most human behavior theories based on complete rationality, which assume individuals are trying to aggregate compensatory influences of two or more cue dimensions at a time by using weighting and summing, PH theory is based on the sequential structure of preferential choices. In generalized terms, I will reconstruct PH theory.

[Figure 3.1 about here]

As Figure 3.1 illustrates, individuals form evaluations in a manner similar to an iterative decision process. In the initial step, the priority rule, decision-makers rank evaluative criteria into a hierarchical order according to their preferences. The second step is the stopping rule. Decision makers assess alternatives on the first priority criterion. If they are satisfied after applying the criterion, they dismiss secondary criteria. However, if decision makers fail to fully distinguish alternatives based on the priority, they move to the third step, the decision rule. In the decision rule, decision makers use the next priority criterion to find the most attractive alternative. If they determine the best alternative by using the next criteria, they stop. If they fail to find the best alternative, they move to subsequent priority criteria. Decision makers iterate this process until they find the best alternative.

For instance, we can apply this idea to a situation for buying a car. To simplify the story, assume an individual wants to buy a used car and has two decision criteria, price and

comfort. According to PH theory, the individual first decides which criterion is more important. If the price is more important, the person puts cars in order of price from the lowest to the highest. If the person finds that the price of the cheapest car fits within the budget, the person will buy that car. However, if there are several cars at a similar price, the buyer begins to think about comfort. So, the buyer orders cars that have a similar price in order of comfort and will select the best alternative. Thus, the bottom line of PH theory is that decision makers primarily use the first-priority criterion and use the next priority when they need to supplement the first priority. The next section will explain and predict how economic voters make a decision regarding approval or disapproval of the incumbent using the two different economic evaluations.

3.3 Unidimensional Scaling of Economic Evaluations under PH Theory

Economic evaluations consist of two different dimensions, sociotropic and egocentric. Thus, an economic voter makes a decision with multiple criteria, these economic evaluations, particularly because they have a possibility of conflicting with each other. If we accept that voters consider both aspects of economic evaluations to make a choice, the next question is how voters combine the dimensions of the evaluation criteria. In general, when voters narrow multiple dimensions into a unidimensional scale, they do so one of three possible ways. First, voters may be able to integrate several dimensions into one by weighting and summing, but this process requires voters to devote a high level of rationality and substantial effort for calculation, which seems unreasonable for ordinary voters. Second, through simple heuristics, voters may use only one dimension and ignore the rest. However, voters make decisions not by a sole dimension but rather consider various elements. In economic voting, voter decision seems more nuanced, and scholars

show the influence of at least two forms of retrospective economic evaluations. Therefore, the most feasible explanation for the voting decision may be the third case, that voters may use the two dimensions together but without weighting and summing. As shown above, PH theory provides a convincing prediction of how voters use two different criteria of economic evaluation by using heuristics without weighting and summing. That is, voters make their decisions primarily on the dimension they perceive as more salient to them but also use another dimension as a supplemental category.

According to this application of PH theory, voters who try to make decisions based on economic evaluations may place more value on one economic evaluation than the other. Then, the voters may evaluate the performance mainly with the economic evaluation they value more and use another economic evaluation to supplement the decision. In other words, if voters are sociotropic, egocentric evaluations will have a limited effect on voting decisions. If they are egocentric, sociotropic judgment will have a limited effect on vote choice. However, this ordering does not mean that inferior evaluations do not matter. The inferior evaluations also affect a voter's decision as a supplementary source even though the effects of inferior evaluation cannot exceed the effects of the superior ones. Therefore, the effect of the inferior economic evaluations on the probability of incumbent voting will be significant only when the superior economic evaluations are fixed.

Some scholars of economic voting would reject a voter's ability to make a clear calculation of utility based on a retrospective evaluation of the economy. Moreover, the survey data available for analysis offer no reliable estimate of a voter's utility in any case. The data available only allow researchers to classify respondents as those who view the economy as better, worse, or about the same. So a predictive model of economic voting

can only group voters into broad classes of economic evaluation, not estimate how much better or worse they view the national or household economy. So the secondary component allows better modeling of the economic perspectives of a voter. The model predicting vote choice is then probabilistic, not deterministic, just as the car purchase model is not limited strictly to deterministic predictions of the saving of one dollar for one make of car over another. Nevertheless, consumers make economic purchases consistent with price elasticity. A critical factor in decision-making, for purchases or ballots, is that there are multiple criteria for making a decision.

If voters place more value on sociotropic than on egocentric economic conditions, they may first establish a priority by relying on the former. Then, voters will complement this priority by considering the latter, but they do not completely change their preference made by the sociotropic evaluation. In this case, when voters make a decision whether or not to vote for the incumbent on the basis of economic conditions, they will consider sociotropic evaluations for the first time. Therefore, it is not surprising to expect that those who evaluate that the national economy has improved are more likely than those who perceive that it is the same or worse to positively evaluate the incumbent no matter what their egocentric economic evaluations are. However, according to PH theory, voters will consider the second criterion, egocentric evaluations, as well in the second step. This implies that, among the group of people who share the same judgement about that the national economy, voters' egocentric economic evaluations can make a difference in their evaluation of the incumbent.

Specifically, voters who perceive that the national economy has improved are more likely than those who feel the other ways to vote for the incumbent whether their egocentric

evaluations are good, the same, or bad. However, it is reasonable to expect that, among voters who perceive that the national economy is positive, those who perceive that the personal economy is positive are more likely than those who have negative or neutral feelings about their own financial situations to vote for the incumbent. In the same vein, voters who have negative sociotropic evaluations are less likely than those who have positive or neutral sociotropic judgments to vote for the incumbent regardless of their egocentric evaluations. However, among voters who have negative sociotropic evaluations, those who have positive egocentric economic evaluations are more likely than those who have negative or neutral egocentric evaluations to vote for the incumbent. Figure 3.2 presents how we can construct a unidimensional scale of economic evaluations based on the assumptions that voters are more sociotropic than egocentric when we expect them to make decisions according to PH theory.

[Figure 3.2 and Figure 3.3 about here]

In turn, there could be a case where voters prioritize egocentric evaluation over sociotropic. In this case, voters first establish a priority by relying on egocentric economic evaluations. Then, they will complement their preference by considering sociotropic economic evaluations, limited by the first decision-making choice. Figure 3.3 shows how we can construct a unidimensional scale of economic evaluations based on the assumptions that voters are more egocentric than sociotropic. Because the priority criterion of voters to make decisions changes from the sociotropic to the egocentric evaluations, the unidimensional scale of economic evaluations also changes, as in Figure 3.3. Therefore, two different unidimensional scales of economic evaluations can be constructed by combining the sociotropic and egocentric evaluations, and which scale is more appropriate

for the empirical test depends on whether voters place more value on sociotropic or egocentric economic evaluations. If a polity is full of sociotropic voters, the unidimensional scale of economic evaluations constructed by sociotropic priority expectation will be more appropriate to test the impact of economic evaluations on vote choice. In contrast, if egocentric voters compose the polity, the ordering will be opposite. If a unidimensional scale of economic evaluations based on sociotropic priority (egocentric priority) is more significant than that based on egocentric priority (sociotropic priority) in statistical models, it implies that sociotropic (egocentric) voting is much stronger than egocentric (sociotropic) voting in that society.

The next chapter discusses empirical reasons for why the two economic evaluations should be combined into a unidimensional scale to test the economic voting hypothesis. Moreover, it will show how a researcher selects one of the two unidimensional scales of economic evaluations to measure the magnitude of economic voting. Hence, this unidimensional measure of economic evaluation will provide a new way of testing the effect of sociotropic and egocentric economic voting.

The PH model applies to individual decision making, but the data analysis here models individual voters similarly in a national election. Thus, it is assumed here that all voters in a national election follow the same priority heuristics. Future research could distinguish whether economic voters are sociotropic or egocentric. However, to be clear, the assumption here is that all voters in an election follow the same priority heuristics. Nevertheless, this research first tests whether voters in a national election prioritize sociotropic or egocentric retrospective evaluations. American voters, for instance, appear to emphasize the national economic situation first. This seems to be the general pattern for

the elections analyzed here. However, other voters may emphasize their personal economic circumstances over the national economy. What is important is the application of priority heuristics. A unidimensional measure of economic evaluation provides a new method of testing the effect of sociotropic and egocentric economic voting.

Figure 3.1. Priority Heuristic Theory

General Decision Making under Priority Heuristic Theory							
The number of criteria to evaluate	n						
Step 1: Priority Rule	Rank criteria by priority: 1 st criterion, 2 nd criterion, ... n th criterion						
Step 2: Stopping Rule	Rank alternatives (A, B, C) based on the first priority criterion						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">If no difference between alternatives, continue</td> <td style="width: 50%; text-align: center;">If find the best alternative, stop and select it (C).</td> </tr> <tr> <td style="text-align: center;">Best<----->Worst</td> <td style="text-align: center;">Best<----->Worst</td> </tr> <tr> <td style="text-align: center;">A B C</td> <td style="text-align: center;">C A B</td> </tr> </table>	If no difference between alternatives, continue	If find the best alternative, stop and select it (C).	Best<----->Worst	Best<----->Worst	A B C	C A B
	If no difference between alternatives, continue	If find the best alternative, stop and select it (C).					
Best<----->Worst	Best<----->Worst						
A B C	C A B						
<div style="text-align: center;"> </div>							
Step 3: Decision Rule	Rank the alternatives that satisfy the first criterion on the next priority criterion						
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">If no difference between alternatives, continue</td> <td style="width: 50%; text-align: center;">If find the best alternative, stop and select it (C).</td> </tr> <tr> <td style="text-align: center;">Best<----->Worst</td> <td style="text-align: center;">Best<----->Worst</td> </tr> <tr> <td style="text-align: center;">C B A</td> <td style="text-align: center;">C A B</td> </tr> </table>	If no difference between alternatives, continue	If find the best alternative, stop and select it (C).	Best<----->Worst	Best<----->Worst	C B A	C A B
	If no difference between alternatives, continue	If find the best alternative, stop and select it (C).					
	Best<----->Worst	Best<----->Worst					
	C B A	C A B					
<div style="text-align: center;"> </div>							
Repeat Step 3 using the next priority criterion							

Figure 3.2. Sociotropic Priority Scale of Economic Evaluations

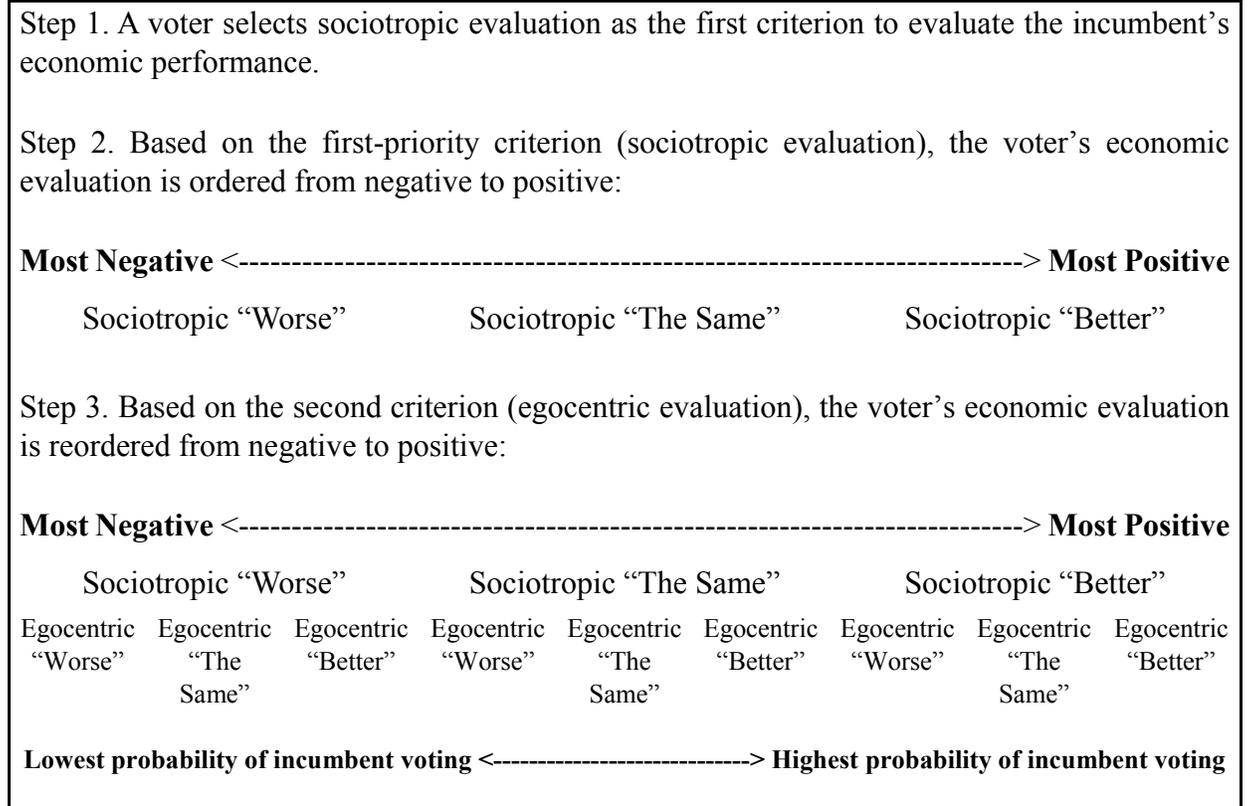
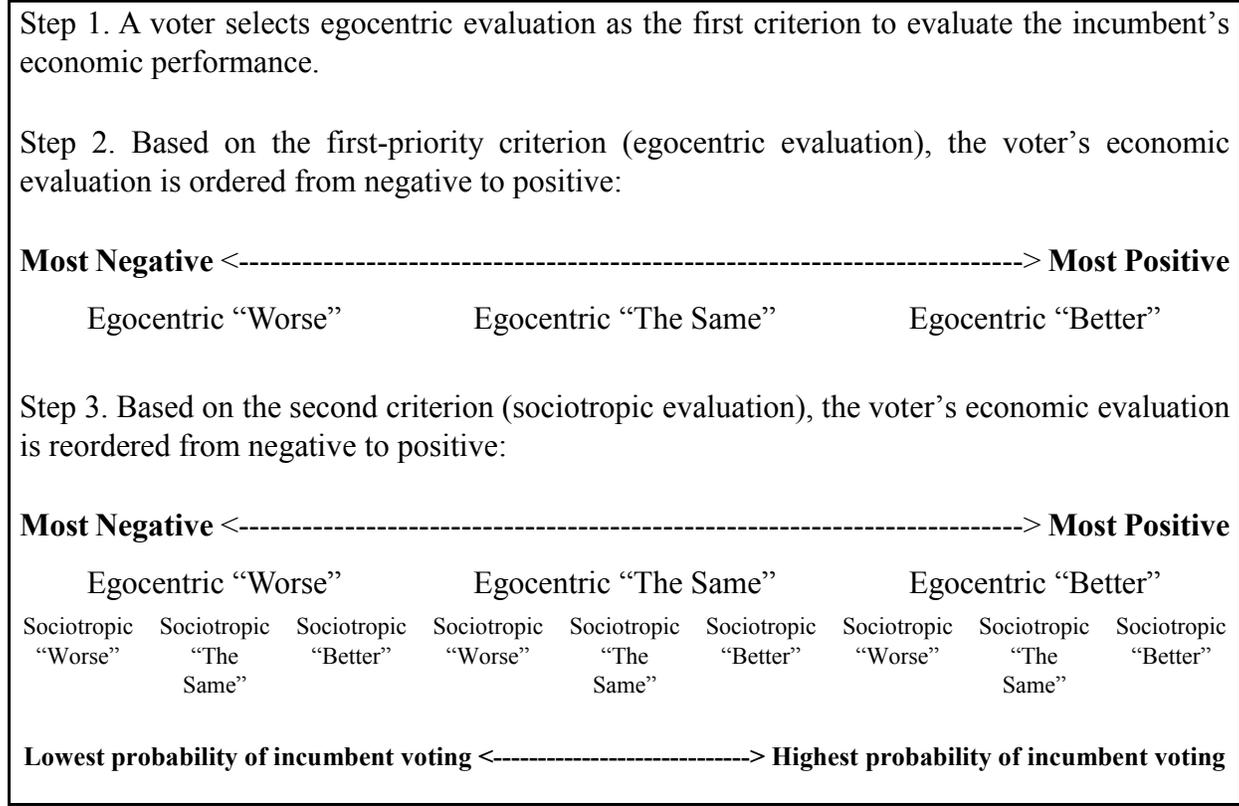


Figure 3.3. Egocentric Priority Scale of Economic Evaluations



Chapter 4

A New Measurement of Economic Voting

The previous chapter discussed theoretical reasons why this dissertation combines two separate economic evaluations into one and how a measure could be constructed by using the idea of the PH theory. On the basis of this theoretical argument, Chapter 4 discusses empirical reasons why new economic voting measurements would be more useful and how to create a new ordinal measure of economic evaluations by combining sociotropic and egocentric economic measures.

First, the chapter reviews traditional economic voting measurements and their drawbacks. Traditionally, researchers of economic voting have used survey data that include individual respondents' subjective evaluations of the economy and their vote choices. In general, a respondent's subjective evaluation of the economy is captured by two different aspects, perceptions of the national economic condition and perceptions of the respondent's own economic circumstances. These two economic evaluations are used as separate and independent measures to estimate economic voting, but there are some drawbacks. Since the two economic perceptions are highly correlated (Kinder and Mebane 1983; Funk and García-Monet 1997; Duch and Palmer 2002), with the existing measurements, it is difficult to examine (a) the independent effect of each economic evaluation on vote choice, (b) which economic evaluation voters place more weight on when the two measurements are simultaneously significant, and (c) whether there is a synergistic effect of the two economic evaluations on vote choice.

Second, in order to solve these problems, this chapter proposes a nominal measure of economic evaluations that has nine categories constructed by pairing the categories of

sociotropic and egocentric evaluations. Using the nominal measurement, this chapter presents answers to the problems. Furthermore, this chapter shows that a new unidimensional ordinal measure of economic evaluations constructed using the idea of PH theory is useful and appropriate for research of economic voting.

4.1 Two Traditional Measurements of Economic Voting

Although economic voting has been frequently examined at the aggregate level, the fundamental question of economic voting derives from a phenomena at the individual level, in particular whether individuals' vote choices are correlated to their own economic evaluations. To examine this at the individual level, researchers of economic voting have used survey data that include individual respondents' subjective evaluations of the economy and their vote choices. In general, a respondent's subjective evaluation of the economy is captured by two different aspects of the economy, the national economic condition and the respondent's own economic situation.

In most national election surveys, similar survey questions have been used for retrospective household evaluation and the national economy. For example, in American National Election Studies (ANES) cumulative time series data, the question for retrospective sociotropic evaluation is "Would you say that over the past year the nation's economy has gotten better, stayed about the same, or gotten worse?" The question for retrospective egocentric evaluation is "We are interested in how people are getting along financially these days. Would you say that you are better off or worse off financially than you were a year ago?" However, some national election surveys word questions differently and ask about different time periods. For example, the Korean election surveys and the Irish election surveys ask respondents about the economic change during the entire term of

an incumbent government rather than about the economic change of the latest year, with questions such as “Would you say that over the past five years the nation’s economy has gotten better, stayed about the same or gotten worse?”³ In addition, for some national election studies, each question of economic evaluation has a follow-up question asking respondents to characterize their household economic condition and the national economic condition as having gotten somewhat or much better/worse. Thus, each economic evaluation may be either a five-point scale ordinal variable or a three-point ordinal scale. However, because the follow-up question is not always asked, researchers of comparative economic voting frequently use the three-point ordinal measurement for each economic evaluation. This research follows that practice. In short, most survey questions for economic voting generally ask respondents about the country’s economy and their own economy though the question wording and response set may be slightly different.

Most economic voting studies using individual-level data (Fiorina 1981; Lewis-Beck and Stegmaier 2000; Gomez and Wilson 2001; Nadeau, Niemi, and Yoshinaka 2002; Duch and Stevenson 2008) use one of these two survey items (i.e., sociotropic and egocentric economic evaluations) or both as their main explanatory variables to examine the effect of voters’ economic evaluations on their vote choice for the incumbent party or candidate, even though a few studies (Markus 1992) use other variables such as real personal income per capita to estimate egocentric economic voting.

By using these two survey items, scholars of economic voting posit that when voters evaluate an incumbent government’s economic performance, they consider two

³ The period of the incumbency of the president is five years in South Korea.

different aspects of the economy: personal economic conditions and societal conditions (Fiorina 1981; Kinder and Kiewiet 1979; 1981). That is, the existing economic voting studies assume that voters distinguish the state of the national economy from their own financial fortunes and use them separately when they evaluate the incumbent. Therefore, traditionally, these two dimensions of economies have been treated as two independent and separate issues. As a consequence of this tradition, scholars of economic voting focus on which of the voters' economic evaluations has the greater impact on their decision-making process. In other words, whether economic voters are sociotropic or egocentric is a frequently debated issue among the students of economic voting (Lewis-Beck et al. 2008; Lewis-Beck and Stegmaier 2009; Nadeau, Lewis-Beck, and Bélanger 2013). To test whether economic voters are sociotropic and/or egocentric, these studies include a voter's sociotropic and egocentric evaluations as two separate and independent explanatory variables in their models. They compare the coefficients of the two variables to determine which economic evaluation is more decisive for vote choice.

Before discussing weaknesses of traditional economic voting measurements, this dissertation shows how the existing studies of economic voting test the economic voting hypothesis by using two traditional measurements. American presidential elections are selected as an example because the United States is the country that is most frequently studied in the economic voting literature. In addition to the two main independent variables (i.e., sociotropic and egocentric economic evaluations), to control other factors that affect vote choice, models include conventional control variables such as party identification, ideology, gender, and education. Following most of the existing studies, the dependent variable is measured as dichotomous whether a respondent votes for the incumbent party

or not, and non-voters are excluded. Although some studies (Lacy and Burden 1999; Tillman 2008) include abstention voters in their economic voting models, most studies of economic voting exclude abstention. In American presidential elections, there were third-party candidates like Ross Perot in the 1992 and the 1996 elections and Ralph Nader in the 2000 elections. This dissertation includes vote choices for these third-party candidates. When excluding third-party candidates, there is not a substantive difference in results. Table 4.1 shows the results of logistic regression models in the US presidential elections from 1980 to 2012 by using the two separate and independent economic evaluation variables.

[Table 4.1 about here]

Table 4.1 demonstrates that voters' sociotropic economic evaluation is consistently significant throughout all presidential elections. The exceptions are the 2000 and 2008 elections. For 2000, there are many missing observations for ideology due to the split sample. In addition, there is a highly skewed distribution of respondents' economic evaluation to the negative side in the 2008 ANES survey. These factors may affect the insignificant result of economic voting in 2000 and 2008. In turn, the effect of a voter's egocentric economic evaluation on vote choice does not show such consistency. Moreover, the standardized coefficient for the sociotropic evaluation variable is always greater than that for the egocentric evaluation variable, even when the two are simultaneously significant. These results, following conventional wisdom, indicate that the US voters' economic evaluations matter but that economic voters are sociotropic more than egocentric. The general consensus on economic voting is that the impact of a voter's sociotropic evaluation on voting choice is much greater and more consistently significant in both statistical and practical

terms than the effects of egocentric evaluation across countries (Fiorina 1981; Kiewiet 1983; Lewis-Beck 1988; Lewis-Beck and Stegmaier 2000; Stubager et al. 2014). Nevertheless, some studies (Markus 1992; Lanoue 1994; Nannestad and Paldam 1997; Sanders 2000; Lippenyi, Mass, and Jansen 2013) find empirical evidence that the personal economic situation is as important as the national economic condition.

However, the two economic evaluations are not independent of each other. As noted by several studies, the two economic evaluations are highly correlated (Kinder and Mebane 1983; Funk and García-Monet 1997; Duch and Palmer 2002). For example, Duch and Palmer (2002) found that sociotropic economic evaluations are highly affected by individual financial evaluations. To show evidence of this association between a voter's sociotropic and egocentric economic evaluations, this research estimates Goodman and Kruskal's gamma test by analyzing ANES time series cumulative data from 1980 to 2012. Because each economic evaluation is an ordinal variable that has an order from worse off to better off, Goodman and Kruskal's gamma test provides the appropriate test. Table 4.2 shows the cross-tabulation between sociotropic and egocentric economic evaluations with Goodman and Kruskal's gamma correlation and demonstrates that there is a statistically meaningful association between the two variables. A gamma between the two economic evaluations shows a consistently significant and positive value at 0.01 confidence level when it is estimated election by election.

[Table 4.2 about here]

As Table 4.2 shows, voters' sociotropic and egocentric evaluations are associated. Thus, it is hard to distinguish which economic evaluation determines voters' choices when they have concurrent economic evaluations about their country and their personal

circumstances. In addition, it is difficult to determine which economic evaluation a voter values more heavily on when the two measurements are simultaneously significant, even though the coefficient of one evaluation is larger than that of the other. Even though sociotropic economic evaluation is statistically significant and has a larger coefficient than that of egocentric evaluation, there is a possibility that sociotropic evaluation is not the main determinant of vote choice. Sociotropic evaluation can be highly influenced by egocentric evaluation. In the opposite situation, it is also hard to argue that egocentric evaluation is the main determinant of vote choice, because one economic evaluation can drive the other. Therefore, economic voting models with the existing measurements have limitations in examining how much the two economic evaluations jointly affect a voter's electoral decisions.

In order to examine which economic evaluation mainly drives vote choice, it is necessary to examine those who have different economic evaluations of the country than of their own finances. To be specific, if a voter has a positive economic evaluation about the country but have a negative one about his or her own finance, does the voter reward or punish the incumbent? If the situation is reversed, how does a voter decide? Moreover, if a voter perceives that the state of the national economy has not changed from the previous year (economic evaluation is "the same"), but perceives that his or her own situation has improved, does the voter credit the incumbent or not? How does a voter act in the opposite situation? Voters may follow a dominant evaluation when they have conflicting economic evaluations. In other words, when a voter has divergent evaluations of national and personal economies, that individual might base a voting decision on the evaluation that he or she values more. In this sense, traditional economic voting measurements are weak when

used to examine the voting behavior of people who have conflicting economic evaluations. For instance, on the basis of the results of Table 4.1, both sociotropic and egocentric evaluations are statistically significant in the 1984, 1992, 2004, and 2012 presidential elections. The magnitude of the standardized coefficient of a sociotropic evaluation is greater than that of an egocentric evaluation in all those elections. For those cases, with the information given, we know that sociotropic and egocentric evaluations matter for vote choice, but we cannot identify which economic evaluation a voter follows when conflicted between the two.

In this regard, the traditional way of estimating economic voting has a limitation in examining the independent effect of each economic evaluation on vote choice due to association of the two economic evaluations. In order to examine the independent effect of each economic evaluation on vote choice, it is required to look at whether there is a change in the probability of incumbent voting according to the change in one evaluation when another is fixed. For example, to determine the independent impact of sociotropic (egocentric) evaluations on incumbent voting, it is required to look at the degree to which the probability of voters' incumbent vote changes according to the increase in voters' sociotropic (egocentric) evaluation when the egocentric (sociotropic) evaluation is fixed. Then, if there is no statistical difference in the probability of incumbent vote among the three groups (those who have positive egocentric evaluations, those who have neutral egocentric evaluations, and those who have negative egocentric evaluations) when their sociotropic evaluations are fixed, one can conclude that voters do not care about their egocentric evaluations. In contrast, if there are statistical differences in the probability of the incumbent vote among the three groups when their sociotropic evaluations are fixed,

one can conclude that voters do care about their egocentric evaluations. In this regard, the independent effect of sociotropic evaluation can be estimated. However, traditional economic voting models including two separate economic evaluation variables cannot show this estimation.

Last, the existing way of estimating economic voting cannot answer whether there is a synergy of the two economic evaluations' effects on vote choice. When voters have concurrent sociotropic and egocentric economic evaluations, there might be a synergistic effect whether their evaluations are positive or negative. Specifically, if voters consider the two economic evaluations together, voters who have positive evaluations about both situations are more likely to vote for the incumbent than those who evaluate that only one of the two economies is positive. In the same vein, voters who have negative evaluations about both economies are less likely to vote for the incumbent than those who evaluate that only one of the two economies is negative. If there is a synergistic effect of the two economic evaluations, it means that voters consider the two economic evaluations together rather than solely on the basis of one evaluation. However, with separately estimating the effects of sociotropic and egocentric evaluations in a model, there is no way to examine whether there is a synergistic effect of the two economic evaluations on vote choice.

To provide an answer about how the two economic evaluations interactively affect vote choices, this dissertation suggests a nominal measurement of economic evaluation constructed by combining the existing two evaluations. The next section will explain how to create the nominal measurement of economic evaluations and how that measurement will be used in empirical analysis.

4.2 A Nominal Measurement of Economic Evaluations

This dissertation proposes a nominal measurement of economic voting that has nine categories created by combining the two different economic evaluations, sociotropic and egocentric. This nominal measurement is used not only for testing the theoretical expectation of how a voter uses the two economic evaluations together based of PH theory but also for complementing empirical limitations of models using traditional economic voting measurements. The nine categories of the nominal measurement are constructed by pairing each category of the two economic evaluations (each evaluation has three categories: better off, the same, and worse off). Therefore, the nine nominal categories are: “sociotropic better and egocentric better,” “sociotropic better and egocentric same,” “sociotropic better and egocentric worse,” “sociotropic same and egocentric better,” “sociotropic same and egocentric same,” “sociotropic same and egocentric worse,” “sociotropic worse and egocentric better,” “sociotropic worse and egocentric same,” and “sociotropic worse and egocentric worse.” Simplified notation will clarify this point. The following notation substitutes “B” for better, “S” for same, and “W” for worse with the letter for the sociotropic evaluation appearing first, followed by that for the egocentric evaluation. For example, “BB” stands for sociotropic better and egocentric better and “BW” for sociotropic better and egocentric worse.

However, the nominal measurement to test economic voting is not a totally new measurement. A few previous studies attempted to create a nominal measurement of economic evaluations by combining sociotropic and egocentric evaluations. For example, Killian et al. (2008) and Dettrey (2013) used a combined measure of sociotropic and egocentric evaluations. The two studies created nine categories by pairing the two

economic evaluations, then classified the nine categories into three broad categories. Killian et al. (2008) used that paired measurement of the two economic evaluations to test whether voters who feel they are “falling behind” (people who have financial losses relative to the national economic conditions) are more or less likely to vote, compared with those who are keeping pace or those who are getting ahead. They explain: “Those *falling behind* are individuals who have combined negative egocentric evaluations with positive or neutral sociotropic evaluations or neutral egocentric evaluations with positive sociotropic evaluations. Those who are *keeping pace* have identical egocentric and sociotropic evaluations. Those who are *getting ahead* combine positive egocentric evaluations with neutral or negative sociotropic evaluations or neutral egocentric evaluations with negative sociotropic evaluations” (Killian et al. 2008, 327). Their results show that voters who are falling behind are less likely to turn out to vote than those who are getting ahead. Following Killian et al. (2008) but with a different focus which is turnout versus vote choice, Dettrey (2013) employed this idea to examine sociotropic and egocentric economic voting of the three groups (i.e., falling behind, keeping pace, and getting ahead). By analyzing the ANES cumulative data from 1980 to 2008, Dettrey (2013) showed that those falling behind are more likely than those who are getting ahead to vote for incumbent party candidates. Following Killian et al. (2008) and Dettrey (2013), the combined measurement of sociotropic and egocentric evaluations can uncover more complex relationships about economic voting than the simple notion that a voter’s sociotropic and egocentric evaluations affect vote choice.

In a similar vein to those two studies, this research uses a nominal variable of economic evaluations that has nine categories. However, unlike the previous two studies

that focused mainly on how the “falling behind” group is different from the “getting ahead” group in terms of voting behavior, this research focuses on how a voter’s sociotropic and egocentric evaluations interact to affect vote choice on the basis of the theory suggesting that voters may use both economic evaluations together but with a preference priority.

When using the nine-category nominal measurement, a researcher can have theoretical and empirical advantages compared with using two separate and independent economic measurements. On one hand, as discussed in the previous chapter, voters should be expected to use two economic evaluations together rather than using them separately to evaluate an incumbent’s performance. Previous studies did not focus on this possibility. In contrast, here, it is expected that voters make their decisions by relying on one primary economic evaluation that they value more and then use a second evaluation to complement their main preference. Considering this idea, two possible unidimensional scales can be proposed using economic evaluations to predict the probability of incumbent voting. Thus, using the nominal measurement of economic evaluations allows us to test whether the theoretical expectation made in Chapter 3 is correct. If an empirical test finds no pattern consistent with the theoretical expectations, unidimensional scales of economic evaluations may not be used for further tests. However, if the nominal categories follow the order of either expectation offered in Chapter 3 in terms of probability for incumbent voting, it supports the theoretical expectation. In other words, it explicitly shows that one of the unidimensional scales of economic evaluations proposed in this dissertation can be used as an alternative variable instead of the traditional economic evaluation measures.

On the other hand, the nominal measurement proposed here provides a chance to solve the three limitations of models using the aforementioned traditional economic

measurements. The nominal measurement with nine categories constructed by combining the categories of sociotropic and egocentric evaluations enables one to examine which economic evaluation a voter values more heavily and whether there is synergy of the two economic evaluations' effects on vote choice. For example, comparing the group of voters who have "sociotropic better and egocentric worse" and those who have "sociotropic worse and egocentric better" allows determination of which economic evaluation voters place more weight on when they have conflicting economic evaluations about the country and their own circumstances. Similarly, confirming whether voters who have "sociotropic better and egocentric better" shows the highest probability of incumbent voting and whether those who have "sociotropic worse and egocentric worse" shows the lowest probability of incumbent voting provides evidence for synergy between the two economic evaluations on vote choice.

Also, the nominal measurement allows examination of the independent effect of each economic evaluation on vote choice by testing whether there is a change in the probability of incumbent voting according to a change in one economic evaluation by fixing another evaluation. For example, to determine the independent effect of sociotropic (egocentric) evaluations on incumbent voting, it will be examined whether the probability of a voter's incumbent vote changes according to a change in the voter's sociotropic (egocentric) evaluation from "worse" to "same," from "worse" to "better," or from "same" to "better" when their egocentric (sociotropic) evaluations are fixed.

As noted, with the nine-category nominal measurement of economic evaluations, this dissertation examines how sociotropic and egocentric economic evaluations jointly affect a voter's decision whether or not he or she supports the incumbent. Moreover, it tests

whether there is a hierarchical order in the probability of incumbent voting among nine groups and which ordering the nine categories follow between the two expectations. However, reexamining economic voting with the nominal measurement is not the final goal of this research. After confirming its theoretical expectation about how individuals jointly use the two economic evaluations for vote choice, the nominal measurement is modified as an ordinal measure and is used as a unidimensional scale of joint economic evaluations. The next section discusses why and how to construct an ordinal measurement of economic evaluations in economic voting models.

4.3 An Ordinal Measurement of Economic Evaluations

The nominal measurement of economic evaluations enables economic voting researchers to closely examine the various interactive effects of sociotropic and egocentric evaluations on vote choice. However, using a unidimensional scale of economic evaluations would be better for estimating economic voting in some ways.

The nominal variable of economic evaluations has an empirical limitation. Empirically, it is hard to measure the magnitude of economic voting of an election. When a researcher wants to compare the magnitude of economic voting of an election with that of another explanatory factor, it is difficult to report a comparable but simple effect of economic voting. Put another way, nine categories fail to provide a parsimonious image of economic voting. With a unidimensional scale of economic evaluations as a main independent variable for economic voting, we can compare the relative magnitude of economic voting to other factors.

Unidimensional scaling captured by multiple items has some advantages over multidimensional scaling or over a unidimensional scaling with a single item (McIver and Carmines 1981, 13-15). First, unidimensional scaling is better for measuring a single social-psychological concept than multidimensional scaling. Gorden (1977, 28) claims that unidimensional scaling is a useful method to use “a set of data items that can be empirically demonstrated to correspond to a single social-psychological dimension.” Therefore, if we accept that a voter’s sociotropic and egocentric evaluations are not two totally different psychological decision dimensions but sub-criteria to construct a single-psychological decision to judge whether the economy is better or worse, unidimensional scaling is more appropriate as an economic voting measurement. Moreover, as McIver and Carmines (1981, 14) emphasize, unidimensional scaling is easier to understand and more common than multidimensional scaling and is “isomorphic with the primary type of concepts devised by social scientists.” A good operational measurement provides conceptual clarity for theory test (Brians et al. 2011, chap. 5; Kellstedt and Whitten 2009, chap. 5). That is, unidimensional concepts are more susceptible to theory-relevant research, so it is recommended for social scientists to develop and use unidimensional concepts (McIver and Carmines 1981, 14).

Second, the unidimensional scale of economic evaluations is constructed by multi-item scales, and multi-item unidimensional scaling is superior to single-item scales. Nunnally (1978, 66-68) describes several attributes. First, a single-item cannot fully capture a complicated theoretical concept or any other specific properties. With only a single measurement, social scientists rarely have enough information to estimate their measurement attributes. Thus, overlooking the serious deficiencies of single-item measures

can sometimes lead social scientists to do research with the absence of vital information (McIver and Carmines 1981, 15). Second, single-item scales are often ambiguous because they fail to distinguish among the fine degrees of an attribute. Third, single-item measures show less reliability, which means more random error. Multi-items methods are more reliable by averaging out random error when scores on multiple items are accumulated to gain a final score (Zeller and Carmines 1980).

A better alternative to a single questionnaire item may be a unidimensional scale of economic evaluations constructed from two items, sociotropic and egocentric evaluations. This unidimensional scale is ordered across the nine intervals and is constructed in a matter consistent with priority heuristic (PH) theory. As introduced in Chapter 3, PH theory expects that voters use one of the two economic evaluations as a primary criterion to assess the current economic situation and to use the other as a complementary criterion. Depending on which economic criterion voters use as a primary standard, the order of unidimensional scaling can go to two different directions. Table 4.3 shows an ordinal measure of economic evaluations when voters are sociotropic (national economic evaluations outweigh assessments of personal economic circumstances). Table 4.4 shows the other ordinal measure when voters are egocentric (personal economic judgements outweigh evaluations of the national economy).

[Table 4.3 and Table 4.4 about here]

Hence, the order of a unidimensional economic evaluation scale should be selected between the two possible alternates after estimating economic voting models first by using the nominal measurement of economic evaluations. The models for the nominal measures

can show which order is more reasonable. As will be seen from the results that follow, electorates in the United States are more sociotropic. However, the possibility that voters are more egocentric should not be neglected.

Applying an ordinal measurement of evaluations in economic voting models is similar to using an ordinal measurement of political ideology or party identification in a voting behavior model. Ideology and party identification are often measured as interval variables that have a unidimensional scale, even though they might more correctly be used as nominal categories or as multidimensional. This is because ideology and party identification have strong orders in preferring a political party. For example, in the United States, those who are extremely liberal are most likely to vote for the Democratic Party, and the probability of voting for the Democratic Party decreases as the ideology of a respondent moves toward extremely conservative. In terms of party identification, strong Democrats are most likely to vote for the Democratic Party, and the probability of voting for the Democratic Party decreases as the party identification of a respondent moves toward strong Republican. Due to this strong hierarchical order of ideology and party identification in preferring a certain party, these two variables are used as interval variables in voting behavior models even though the R-squared of models that use party identification and ideology as interval is lower than that of models that use the two variables as nominal. Note, however, that this strong unidimensional character of partisan identification is not fully correct. Petrocik (1974, 2009) shows that the commonly used seven point scale of party identification is misleading.

By comparing the R-square of each election in Table 4.5 with those in Table 4.6, one can recognize that using party identification as nominal in models produces a larger R-

square than using it as interval. Moreover, seven categories of party identification in the results of Table 4.5 do not follow the exact order in the probability of voting for a certain party that is expected by conventional wisdom.⁴

[Table 4.5 and Table 4.6 about here]

If we only wanted to maximize statistics of explanatory power, we should forgo using the nominal variable of party identification. However, our theoretical understanding of partisan behavior may weaken. Nevertheless, most studies treat party identification as ordinal in terms of estimating voting behavior. Therefore, it is no more problematic to use the interval measure of economic evaluations introduced in this chapter to estimate the magnitude of economic voting than to use seven-point party identification for partisan support. The problem is that the size of the sample for each of the nine categories is often too small for statistical analysis.

[Table 4.7 about here]

Table 4.7 reports the number of responses for nine categories for each election. Ideally, each category should contain one ninth of respondents. Of course, this is not the case. As Table 4.7 shows, in every election year, several categories have a very small number of observations. Each ANES time series dataset has a small number of observations. So, when dividing the sample into the nine categories, each category fails to have enough numbers to represent its population. The 2008 election is the worst one. In 2008, only 2.6% of respondents evaluated the national economy favorably. So, for 2008, the ‘sociotropic

⁴ This might be caused by the small sample size of each category when dividing the sample into several nominal categories.

better and egocentric better' category has only 1.6% of total observations, 'sociotropic better and egocentric same' has 0.3% (only seven respondents), and 'sociotropic better and egocentric worse' has 0.7% (thirteen respondents). Similarly, in 1980 and 1992, less than 5% of respondents answered that the national economy was better. Therefore, for 1980, 'sociotropic better and egocentric worse' category contains merely 0.8% (thirteen respondents) and for 1992, it has 0.6% (fourteen respondents). Except for those cases, several entries in Table 4.7 have less than 5% of total observations in each election. When considering missing values for control variables (gender, education, party identification, social class, and ideology) and a dependent variable (vote choice without non-voters) in the statistical models, the number of observations for each category decreases even more. Therefore, estimating economic voting election by election through the variable with nine economic evaluation categories may be misleading. Presumably to deal with this problem, Killian et al. (2008) and Dettrey (2013), for instance, use a cumulative ANES data with a dummy for each election instead of ANES data when dividing the sample into nine categories. In the cumulative dataset, there is sufficient sample size for each category. In this sense, this dissertation uses cumulative national election study data to estimate the impact of each nine economic evaluation category on vote choice in the following empirical analysis chapters that follow.

In the following chapters, with these two nominal and ordinal measurements of economic evaluations, economic voting will be reexamined in various countries: the United States, Britain, Canada, South Korea, and Taiwan. In each country, after analyzing economic voting through the nominal measurement of economic evaluations, an ordinal measurement of economic evaluations is selected as more appropriate for each country.

Then, finally, the chosen ordinal measurement will estimate the magnitude of economic voting in each country.

Table 4.1. Sociotropic and Egocentric Evaluations on Vote Choice: US Presidential Elections, ANES, 1980-2012

	1980	1984	1988	1992	1996	2000	2004	2008	2012
Sociotropic Evaluation	.710*** (.253)	.849*** (.134)	.665*** (.143)	.783*** (.198)	1.046*** (.205)	.373 (.235)	1.136*** (.197)	-.179 (.241)	1.177*** (.161)
Egocentric Evaluation	.080 (.133)	.393*** (.121)	.118 (.122)	.406*** (.133)	.155 (.167)	.253 (.275)	.556*** (.177)	.141 (.103)	.217** (.129)
PID	1.767*** (.167)	1.717*** (.138)	1.690*** (.135)	2.042*** (.146)	2.115*** (.172)	2.136*** (.256)	2.027*** (.226)	1.864*** (.135)	1.862*** (.131)
Male	-.228 (.232)	-.069 (.194)	-.021 (.195)	-.229 (.209)	-.025 (.253)	.654 (.341)	-.381 (.292)	-.028 (.179)	.243** (.222)
College degree	.085 (.276)	-.610*** (.226)	-.066 (.212)	.185 (.222)	-.581** (.271)	.533 (.340)	-.120 (.321)	-.035 (.192)	.197 (.229)
Ideology	.449*** (.090)	.519*** (.077)	.671*** (.084)	.822*** (.087)	.727*** (.112)	.768*** (.136)	.801*** (.133)	.773*** (.075)	.440*** (.098)
Constant	-3.357*** (.537)	-4.099*** (.077)	-4.263*** (.530)	-5.636*** (.543)	-4.877*** (.657)	-4.682*** (.962)	-6.727*** (.808)	-3.392*** (.452)	-4.641*** (.529)
n	559	977	871	1001	818	410	625	1084	1016
Pseudo R²	.372	.461	.425	.536	.570	.505	.613	.507	.625

Note: Logistic regression with DV: whether vote for incumbent or not. Sociotropic and egocentric evaluations are coded as interval variables on a three-point scale: (3) better, (2) same, and (1) worse. ***p<0.01, **p<0.05, and *p<0.10

Table 4.2. Correlation between Voters' Sociotropic and Egocentric Economic Evaluations, ANES, 1980-2012

		Egocentric Economic Evaluation			Total
		Better off	The same	Worse off	
Sociotropic Economic Evaluation	Better off	59.8% (4204)	23.2% (1629)	17.0% (1193)	100% (7026)
	The same	41.1% (3895)	32.7% (3102)	26.3% (2499)	100% (9496)
	Worse off	27.6% (3897)	26.1% (3675)	46.3% (6531)	100% (14103)
Gamma Correlation					.396 (ASE=.007)

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Table 4.3. Ordinal Measure of Economic Evaluations (Sociotropic Priority Model)

Unidimensional economic evaluation	Sociotropic economic evaluation	Egocentric economic evaluation
9 Most positive	Better off	Better off
8	Better off	The same
7	Better off	Worse off
6	The same	Better off
5	The same	The same
4	The same	Worse off
3	Worse off	Better off
2	Worse off	The same
1 Most negative	Worse off	Worse off

Note: Ordinal scale is from 9, the most positive economic evaluation, to 1, the most negative economic evaluation.

Table 4.4. Ordinal Measure of Economic Evaluations (Egocentric Priority Model)

Unidimensional economic evaluation	Sociotropic economic evaluation	Egocentric economic evaluation
9 Most positive	Better off	Better off
8	The same	Better off
7	Worse off	Better off
6	Better off	The same
5	The same	The same
4	Worse off	The same
3	Better off	Worse off
2	The same	Worse off
1 Most negative	Worse off	Worse off

Note: Ordinal scale is from 9, the most positive economic evaluation, to 1, the most negative economic evaluation.

Table 4.5. Seven Categories of Party Identification on Vote Choice: US Presidential Elections, ANES, 1980-2012

	1980	1984	1988	1992	1996	2000	2004	2008	2012
Strong Democrat	3.438*** (.512)	-2.908*** (.394)	-3.062*** (.471)	-2.683*** (.477)	3.713*** (.715)	3.432*** (.953)	-4.069*** (1.017)	-2.450*** (.368)	3.048*** (.581)
Moderate Democrat	2.268*** (.462)	-1.657*** (.350)	-1.285** (.370)	-1.295*** (.389)	2.191*** (.514)	1.002* (.593)	-2.216*** (.650)	-1.309*** (.339)	.590 (.436)
Weak Democrat	2.125*** (.498)	-2.113*** (.392)	-2.673*** (.462)	-1.742*** (.445)	2.315*** (.605)	.534 (.549)	-2.178*** (.606)	-1.918*** (.364)	1.149*** (.431)
Weak Republican	-.038 (.566)	1.268*** (.470)	1.132*** (.412)	2.051*** (.411)	-.677 (.507)	-1.702*** (.555)	.989 (.623)	1.316*** (.342)	-2.301*** (.432)
Moderate Republican	-.902 (.597)	1.290*** (.465)	.847** (.392)	1.736*** (.372)	-1.066** (.504)	-1.799*** (.588)	1.135* (.605)	1.761*** (.347)	-1.834*** (.431)
Strong Republican	-1.129 (.732)	1.619*** (.525)	3.404** (.782)	3.240*** (.549)	-2.257*** (.587)	-3.772*** (.997)	1.642** (.703)	2.649*** (.441)	-2.976*** (.554)
Sociotropic Evaluation	.630** (.269)	.786*** (.143)	.580*** (.162)	.786*** (.219)	.784*** (.213)	.454* (.241)	.982*** (.220)	-.246 (.266)	1.114*** (.168)
Egocentric Evaluation	.144 (.138)	.321** (.129)	.160 (.140)	.279* (.145)	.166 (.176)	.260 (.277)	.397** (.196)	-.026 (.112)	.238* (.133)
Male	-.351 (.240)	-.037 (.208)	.159 (.223)	-.343 (.231)	.053 (.267)	.582* (.335)	-.557* (.328)	-.263 (.196)	.294 (.229)
College degree	.121 (.283)	-.657*** (.246)	-.099 (.243)	.162 (.246)	-.453 (.283)	.610* (.343)	-.062 (.350)	.008 (.210)	.288 (.234)
Ideology	.357*** (.095)	.407*** (.085)	.521*** (.098)	.631*** (.099)	.598*** (.125)	.645*** (.147)	.637*** (.150)	.549*** (.084)	.465*** (.111)
Constant	-3.962*** (.701)	-2.865*** (.583)	-3.226*** (.648)	-4.615*** (.619)	-4.428*** (.812)	-4.149*** (1.067)	-4.567*** (.967)	-1.891*** (.541)	-4.355*** (.641)
n	595	1032	894	1042	852	447	645	1125	1016
Pseudo-R²	.421	.533	.547	.610	.612	.540	.663	.565	.649

Note: Logistic regression with DV: whether vote for incumbent or not. Party Identification seven-point scale (6 dummies with a reference category [Independent]). Ideology is on a scale from 1 (the most liberal) to 7 (the most conservative) when the incumbent is Republican, whereas the scale is reversed when the incumbent is Democrat. ***p<0.01, **p<0.05, *p<0.10

Table 4.6. Party Identification as Interval Variable on Vote Choice: US Presidential Elections, ANES, 1980-2012

	1980	1984	1988	1992	1996	2000	2004	2008	2012
Party Identification	-.833*** (.074)	.836*** (.060)	.857*** (.060)	.969*** (.064)	-.952*** (.073)	-.967*** (.102)	.972*** (.095)	.887*** (.058)	-.943*** (.071)
Sociotropic Econ.	.611** (.261)	.795*** (.138)	.603*** (.153)	.756*** (.214)	.874*** (.207)	.376 (.231)	.924*** (.205)	-.235 (.25)	1.103*** (.161)
Egocentric Econ.	.102 (.134)	.345*** (.125)	.097 (.132)	.317** (.140)	.150 (.171)	.156 (.269)	.460** (.186)	.010 (.107)	.274** (.127)
Male	-.320 (.233)	-.112 (.200)	.050 (.210)	-.270 (.221)	-.003 (.262)	.540 (.333)	-.470 (.309)	-.198 (.188)	.201 (.217)
College degree	.177 (.278)	-.689*** (.237)	-.768 (.230)	.122 (.237)	-.416 (.276)	.683** (.340)	-.137 (.340)	.014 (.200)	.164 (.221)
Ideology	.365*** (.093)	.438*** (.082)	.552*** (.091)	.695*** (.093)	.610*** (.120)	.626*** (.141)	.647*** (.144)	.593*** (.080)	.488*** (.102)
Constant	.204 (.610)	-6.690*** (.516)	-6.947*** (.587)	-8.635*** (.615)	-.242 (.748)	-.205 (1.080)	-9.192*** (.879)	-5.756*** (.451)	-1.086* (.643)
n	595	1032	894	1042	852	447	645	1125	1016
Pseudo-R²	.409	.513	.502	.590	.603	.527	.651	.549	.623

Note: Logistic regression with DV: whether vote for incumbent or not. Ideology is on a scale from 1 (the most liberal) to 7 (the most conservative) when the incumbent is Republican, whereas the scale is reversed when the incumbent is Democrat. Econ. = economic. ***p<0.01, **p<0.05, *p<0.10

Table 4.7. Nine Economic Evaluation Categories and Sample Size Presidential Elections, ANES, 1980-2012

Sociotropic Evaluation	Egocentric Evaluation	1980	1984	1988	1992	1996	2000	2004	2008	2012
Better	Better	1.7% (27)	26.1% (556)	10.8% (210)	2.9% (71)	22.6% (383)	17.2% (286)	15.5% (185)	1.6% (36)	20% (407)
Better	Same	1.2% (19)	10.8% (229)	4.9% (96)	1.1% (28)	10.8% (183)	17.8% (297)	5.1% (61)	0.3% (7)	7.4% (149)
Better	Worse	0.8% (13)	6.1% (129)	3.1% (60)	0.6% (14)	6.0% (102)	4.1% (68)	2.7% (32)	0.7% (15)	5.5% (112)
Same	Better	5.1% (79)	12.9% (274)	21.8% (424)	9.2% (225)	17.1% (289)	12.7% (211)	14.4% (171)	3.9% (90)	17.6% (356)
Same	Same	4.2% (66)	11.1% (236)	17.8% (346)	9% (219)	17.1% (290)	27.2% (453)	8.4% (100)	2.2% (50)	9.0% (182)
Same	Worse	3.7% (57)	9.3% (198)	10.4% (202)	5.0% (122)	9.7% (165)	4.4% (74)	8.4% (100)	2.4% (56)	10.5% (859)
Worse	Better	25.8% (402)	5.5% (116)	20.4% (202)	18.3% (447)	4.1% (69)	3.5% (58)	13.8% (164)	26.7% (615)	8.3% (167)
Worse	Same	19.4% (302)	6.1% (129)	9.6% (186)	24.6% (601)	3.8% (64)	9.3% (155)	11.2% (133)	15.3% (351)	6.3% (127)
Worse	Worse	38.1% (594)	12.3% (261)	11.2% (218)	29.3% (716)	8.7% (148)	3.9% (65)	20.6% (245)	47.0% (1081)	15.3% (309)
Total		100% (1559)	100% (2128)	100% (1944)	100% (2443)	100% (1693)	100% (1667)	100% (1191)	100% (2301)	100% (2021)

Note: Numbers in parentheses are sample size. Yellow highlight denotes a category comprising less than 5 % of total observations. If either response for sociotropic and egocentric evaluation questions is missing, the observation is excluded.

Chapter 5

Unidimensional Economic Voting in the United States

The United States is the most studied case in the economic voting literature (Lewis-Beck and Stegmaier 2010). Since Kramer (1971) and Mueller (1970),⁵ many scholars (Fiorina 1981; Hibbs, Rivers, and Vasilatos 1982; Kiewiet 1983; Norpoth 1984; and especially Lewis-Beck and his colleagues) have found evidence not only at individual levels but also at macroeconomic levels that economic conditions have a great impact on the incumbent and the incumbent party's electoral fortune in the United States. However, when it comes to how economics affects voters' evaluations, there are several controversial arguments. Of those, this chapter focuses on the debate on sociotropic and egocentric economic voting and, using American National Election Studies (ANES) data from 1980 to 2012, examines how people jointly use the two different economic evaluations to vote in the US presidential elections.

For this examination, this chapter uses the nominal and ordinal measures of economic evaluations proposed in the previous chapter. First, in order to test whether the theoretical expectation based on priority heuristic (PH) theory is correct, an economic voting model is estimated by employing a nominal measure of economic evaluations that has nine categories. Second, this research uncovers new information on how the two different economic evaluations jointly affect American voters, based on the results of the economic voting model estimated by using the nominal measure of economic evaluations.

⁵ Kramer (1971) focuses on congressional elections and found that there was a positive correlation between good economic performance and a party's vote shares in congressional elections. In addition, Mueller's (1970) study provides another important foundation with regard to economic voting. He found a positive correlation between presidential popularity and the economic conditions.

Finally, it suggests a new ordinal measure of economic evaluations that is based on the result of the model using the nominal measure of economic evaluation and re-estimates economic voting in the US presidential elections with the ordinal measure.

5.1 Sociotropic versus Egocentric Economic Voting in the United States

In terms of whether economic voters are sociotropic or egocentric, the majority of economic voting studies claim that American voters place more value on national economic conditions than on their own situation when they evaluate the performance of incumbents (Fiorina 1981; Kiewiet 1983; Lewis-Beck 1988; Kinder, Adams, and Gronke 1989; Alvarez and Nagler 1995; 1998; Norpoth 2004; Lewis-Beck and Stegmaier 2000; 2010). However, this does not mean that voters completely ignore their own economic fortunes when assessing the incumbent's economic performance. Indeed, Markus (1992) and Lanoue (1994) found evidence for egocentric economic voting, though they found sociotropic evaluations are stronger than or as important as egocentric evaluations. Moreover, if the focus is on specific types of voters such as high sophisticates, there is more evidence supporting that voters care about their own economy when they vote. For example, Gomez and Wilson (2001, 2006) found that less politically sophisticated individuals use only their national economic evaluations when casting votes, whereas more sophisticated individuals consider not only the country's economic situation but also their own pocketbooks.

Nevertheless, the main point in the debate on whether American voters are sociotropic or egocentric is that there are consistently stronger sociotropic than egocentric effects on vote choice in the general voting population (Lewis-Beck and Stegmaier 2010).

To test whether this conventional wisdom is correct, this dissertation examined sociotropic and egocentric economic voting in the US presidential elections in the previous chapter. By using ANES cumulative time series data from 1980 to 2012 and controlling party identification and other socioeconomic status variables, the result shows that sociotropic economic evaluation consistently show a significant effect on vote choice, except for the 2000 and 2008 presidential elections. This dissertation fails to find evidence for sociotropic economic voting in the 2000 and 2008 US presidential elections. This may be because most respondents had the same opinion of the national economic condition (i.e., “has been worse”) in the 2008 ANES data this research used. In addition, in 2000, there are many missing observations for ideology due to the split sample. Thus, if a researcher uses different survey data or a different measure of economic evaluations, the researcher might find different results from those of this dissertation.

In contrast, egocentric evaluation has a significant effect on vote choice in only four (1984, 1992, 2004, and 2012 elections) of nine presidential elections. When the two economic evaluations are simultaneously significant in an election, the size of the coefficient of sociotropic evaluations is always greater than that of egocentric. This result provides evidence supporting that American voters are more sociotropic than egocentric when it comes to economic voting.

However, this result is limited to showing how voters jointly use the two economic evaluations to evaluate the performance of the incumbent president. As mentioned in Chapter 4, this model has difficulty examining the independent effect of each economic evaluation on vote choice, which economic evaluation voters place more weight on when the two measurements are simultaneously significant, and whether there is a synergistic

effect of the two economic evaluations on vote choice. Moreover, as argued in Chapter 3, voters are more likely to use the two economic evaluations interactively rather than separately. On the basis of PH theory and the result of economic voting models in Chapter 4, it is expected that American voters base their vote choice mainly on their sociotropic economic evaluations and use their egocentric evaluations secondarily. Therefore, this dissertation uses a nine-category nominal measurement of economic evaluations by combining the two economic evaluations to explore how voters use them interactively. Then, it reexamines economic voting in the US presidential elections with the nine-point ordinal variable by treating it as interval.

5.2 Data and Method

This dissertation uses the ANES time series data from 1980 to 2012 to examine economic voting in US presidential elections.⁶ Although ANES data was first collected in 1952, the sociotropic and egocentric economic evaluation questions have been asked only since 1980. Furthermore, this analysis uses an accumulative dataset that combines the ANES time series data from 1980 to 2012 to estimate economic voting in the US presidential elections when using the nominal measure of economic evaluations. As Table 4.7 demonstrated in Chapter 4, most individual ANES time series datasets have a very small number of observations for some of the nine categories of the nominal economic evaluation variable. Consequently, some categories of the nominal variable fail to have enough numbers to represent their population when the sample is divided into nine

⁶ This dissertation uses only the face-to-face (F2F) survey sample for the 2012 data because for the egocentric question, “Same” was a volunteered option for F2F respondents. However, it was not an option for the web respondents (Internet survey). According to the codebook of the 2012 ANES, 23% of respondents in the F2F survey answered “Same,” but 0% of web respondents did so—that answer is impossible.

categories. For example, the ‘BB’ category is 1.7% (twenty seven respondents), ‘BS’ is 1.2% (nineteen respondents), and ‘BW’ is 0.8% (thirteen respondents) in the 1980 ANES data. The ‘BB’ category is 2.9% (seventy one respondents), ‘BS’ is 1.1% (twenty eight respondents), and ‘BW’ is 0.6% (fourteen respondents) in the 1992 ANES data. There are similar situations for the 2000, the 2004, and the 2008 data. Therefore, this analysis uses an accumulative dataset from 1980 to 2012 with dummy variables for each election to control overrepresentation of a specific election.

The dependent variable is a respondent’s actual vote choice. Specifically, it is measured as dichotomous, whether the vote was for the incumbent’s party (coded as 1) or other candidates (coded as 0). Non-voters are excluded from the analysis for simplicity of analysis and following the existing studies. Between the 1980 and the 2012 presidential elections, there were third-party candidates such as Ross Perot in 1992 and 1996 and Ralph Nader in 2000. This research includes vote choices for these third-party candidates and treats them as “vote for other candidates.” For an empirical specification to examine economic voting, thus, this analysis employs binary logistic regression models with list-wise deletion.⁷

The main independent variable is a voter’s summary economic evaluation. To measure the voter’s summary economic evaluation, two different measurements are used in this chapter. First, a nominal measurement of economic evaluations is used. This nominal measurement contains nine categories by pairing each category of sociotropic and

⁷ In the data used, the percentages of missing values ranged from 0.41% for sociotropic economic evaluations in the 1996 ANES to 6.75% for sociotropic economic evaluations in the 2000 ANES.

egocentric economic evaluations.⁸ By using this nominal measurement, this chapter will show a hierarchical order in the probability of incumbent voting among those categories of economic evaluations. After providing evidence supporting that the nominal measurement can be used as an ordinal scale, this chapter will reexamine economic voting in US presidential elections by employing this nine-point ordinal measurement of economic evaluations. This new summary measure will be treated as interval in logistic regression models after testing a likelihood ratio-test.

Several controls are also included to account for noneconomic impacts on vote choice suggested by the existing literature of American voting behavior. Specifically, the logistic regression models include variables for party identification, ideology, gender, education, and social class. Party identification is measured as an ordinal variable that has three categories: voters who identify with the incumbent president's party (coded as 3), those who identify as independents (coded as 2), and those who identify with the non-incumbent presidential candidate's party (coded as 1).⁹ Ideology is basically measured as an ordinal scale from 1 (the most liberal) to 7 (the most conservative). However, in a cumulative model using a merged dataset from 1980 to 2012, the ordinal scale of ideology is reconstructed as 1 (the ideology farthest from that of the incumbent party) to 7 (the ideology closest to that of the incumbent party). That is, in a cumulative model, ideology is on a scale from 1 (the most liberal) to 7 (the most conservative) when the incumbent is

⁸ Look at Chapter 4 to see how this dissertation creates the nominal measurement of economic evaluations by combining the sociotropic and egocentric evaluations.

⁹ As mentioned in Chapter 4, party identification can be measured as a seven-point scale ordinal variable and treated as interval. However, this dissertation uses a three-point scale to compare the US economic voting models with other countries' voting models. Appendix 5-A shows the results of economic voting models using a seven-point ordinal variable. There is no substantive difference in coefficients of independent variables between models using a three-point scale variable of party identification and models using a seven-point scale.

Republican, whereas the scale is reversed when the incumbent is Democrat. Gender is measured as dichotomous, 1 if a respondent is male and otherwise 0. Education is also measured as a dummy variable on the basis of whether respondent has a college degree (1) or less education (0). Finally, this analysis includes dummy variables for each election year compared with the 1980 election.

5.3 The Nominal Measurement and Economic Voting in US Presidential Elections

First, this chapter explores economic voting in the US presidential elections by using a nominal measurement of economic voting to test whether the theoretical expectation is correct. If the theoretical expectation is correct, the probability of incumbent voting for each of the nine categories will have a hierarchical order according to the theory. In addition, the nominal measurement of economic evaluation allows researchers to examine whether there is a synergistic effect of the two economic evaluations on vote choice, whether a voter chooses sociotropic or egocentric evaluations when he or she has conflicting economic evaluations, and how sociotropic and egocentric economic evaluations jointly affect a voter's decision. Specifically, for the first question, when a voter has the same evaluations about both national and personal economic conditions, the impact of economic evaluations on vote choice should be stronger than other cases. Thus, a voter who has positive evaluations for both national and personal economic situations should be most likely to vote for the incumbent president. A voter who has negative evaluations for the both economies should be least likely to vote for the incumbent. For the second question, the findings of the existing studies in the US economic voting literature anticipate that a voter will make a decision on the basis of the sociotropic economic

evaluation when holding a conflicting evaluation between national and personal economic evaluations. For the third question, expectation is that individuals jointly use sociotropic and egocentric evaluations to make vote choices according to PH theory. This extends from the combination of the first and second expectations. Therefore, the order of the probability of voting for the incumbent president will follow one of the two sequences based on PH theory. In the case of American voters, the sequence of the probability of incumbent voting will follow what Table 4.3 proposed, which is a sociotropic priority model.

[Table 5.1 and Figure 5.1 about here]

Table 5.1 shows the results of a logistic regression model estimating the impacts of nine categorical economic evaluations and other control variables on the probability of voting for the incumbent president. As mentioned, this research uses a cumulative data from 1980 to 2012 when using the nominal economic evaluation variable, but economic voting is also estimated election by election since 1980 (Appendix 5-B provides the result of the estimation).

Before discussing the impacts of nine categories of economic evaluations on vote choice, it might be interesting to consider the impacts of the control variables. Following conventional wisdom, party identification and ideology are positive and statistically significant. In particular, those who have partisan attachment to the incumbent president are more likely than those who have attachment to the opposing party or are independents to vote for the incumbent party's candidate. In terms of ideology, a voter is more likely to vote for the Democratic Party nominee if he or she is closer to the liberal extreme, whereas an individual is more likely to vote for the Republican Party nominee if he or she is closer

to the conservative extreme. Other controls do not have a meaningful impact on vote choice for the incumbent.

As the core independent variable, a voter's economic evaluations appear to have a statistically significant impact on vote choice. The reference category to interpret the impacts of each economic evaluation category on the probability of incumbent voting is the group claiming that sociotropic and egocentric evaluations are "same" because this is the only group that has neutral attitudes on both economic evaluations. Compared with this neutral evaluation category, a positive log coefficient represents a higher probability of voting for the incumbent, whereas a negative log coefficient represents a lower probability of voting for the incumbent. Therefore, if the hypothesis of economic voting is correct, positive economic evaluations should have positive log coefficients, whereas negative evaluations should have negative ones.

Compared with the reference category ("SS"), categories "BB," "BS," "BW," and "SB" show positive coefficients and marginal effects, whereas categories "SW," "WB," "WS," and "WW" demonstrate negative coefficients and marginal effects. Moreover, the magnitude of marginal effects of those categories becomes greater as the rank order of each category goes to the both sides from the reference category. Marginal effects show the change in probability when the predictor or independent variable increases by one unit. For binary variables, the change is from 0 to 1. For example, in Table 5.1, the change in probability of voting for the incumbent increases 6.5 percentage or .065 when evaluation goes from "sociotropic and egocentric same" category (the reference category) to "sociotropic same and egocentric better" category, and it is significant. The change in probability decreases by 12.2 percentage points or -.122 when evaluation goes from

“sociotropic and egocentric same” to “sociotropic same and egocentric worse.” According to this result, it appears the theoretical expectation that is based on PH theory with the sociotropic priority model is correct.

To make it simple to interpret the results, Table 5.1 also presents the predicted probability of voting for the incumbent party nominee at the mean of other control variables. The predicted probability of the reference category is 55% or .551. Thus, when other conditions are the same, a voter who has a neutral economic evaluation is 55% likely to vote for the incumbent in the US presidential elections. According to Table 5.1, the magnitudes of coefficients and predicted probability for nine categories of economic evaluations follow the expected order. The group having the highest probability of incumbent voting is “BB” (78.8%), the second “BS” (74.2%), the third “BW” (67.8%), the fourth “SB” (61.7%), the fifth “SS” (55.1%), the sixth “SW” (42.9%), the seventh “WB” (38.3%), the eighth “WS” (37%), and the lowest “WW” (32%). For example, holding all variables at their mean values, the predicted probability of voting for the incumbent president is 79% (the highest probability) among those who said that both sociotropic and egocentric economic evaluations are positive, whereas the predicted probability is 32% (the lowest probability) among those who said both evaluations are negative. In Table 5.1 and Figure 5.1, predicted probability for each category of the nominal economic evaluation variable is calculated on the basis of the assumption that all other variables are at their mean values. However, this assumption could be arbitrary because other independent variables such as gender, education, and party identification are nominal in my model. Thus, this research estimated predicted probability for each category of economic evaluations at the specific values of other independent variables (e.g., college degree vs. no degree, and

partisans for incumbent party vs. partisans for opposition party vs. independent). At all specific values of the other independent variables, the predicted probability for each category of economic evaluations showed the same result as Table 5.1 and Figure 5.1. Appendix 5-C shows these results. These results confirm the expectation of this dissertation.

Nevertheless, in order to make the results robust, this research examines economic voting in the US presidential elections by dividing samples in incumbent-running elections and non-incumbent-running elections. The existing studies (Nadeau and Lewis-Beck 2001; Campbell, Dettrey, and Yin 2010) found that voters place less emphasis on government's economic performance for their vote choice when the incumbent is not running. Thus, this chapter divides ANES data into incumbent-running (1980, 1984, 1992, 1996, 2004, and 2012) and non-incumbent-running (1988, 2000, and 2008) elections.

[Table 5.2 and Table 5.3 about here]

Table 5.2 reports the effects of economic voting in the US presidential elections when the incumbent president is running, whereas Table 5.3 shows results when the incumbent is not. As expected, when the incumbent president runs for reelection, the impact of economic evaluations on the probability of voting for the incumbent party is apparent and greater than when the individual incumbent does not appear on the ballot. Specifically, in the incumbent-running model, the results from the nine-category nominal variable of economic evaluations are similar to those of the cumulative model. The coefficients and predicted probabilities for each category show no substantive difference between the incumbent-running model and the cumulative model. However, in the non-incumbent-running model, the impact of the nine economic evaluation categories on vote

choice is weaker and less supportive of theoretical expectations. Figure 5.2 depicts the probability of voting for the incumbent for each category, depending on whether the President appears on the ballot. For non-incumbent elections, the slope is less steep, compared with elections with the incumbent running.

[Figure 5.2 about here]

These results suggest a voter jointly uses the two retrospective economic evaluations. First, there is a synergistic effect between the two economic evaluations on vote choice. When voters have convergent evaluations of the national and personal economies, the impact of economic evaluation on vote choice becomes stronger than when voters have divergent evaluations about the two economies. Second, when they have conflicting evaluations between sociotropic and egocentric economic conditions, Americans are more likely to base their vote choice on perceptions of the national economy. For instance, a respondent with “sociotropic better and egocentric worse” evaluation has a .68 predicted probability of incumbent support. This compares with .38 predicted probability for a respondent with a “sociotropic worse and egocentric better.” The effect of sociotropic is much greater than that of egocentric on an incumbent vote choice.

Third, the results show whether there is an independent impact of each economic evaluation on vote choice. Using a statistical test¹⁰, this analysis tests whether individual categories of independent factor variables have different impacts on the dependent variable. For sociotropic evaluations, changing from one category to another always makes a statistical difference in the probability of voting for incumbents. For egocentric evaluations,

¹⁰ A lincom test is used in STATA for this statistical test.

there are statistical differences in the probability of voting for incumbents between BB and BW, between SB and SS, between SS and SW, between WB and WW, and between WS and WW. This result shows that a voter's sociotropic evaluation always has an independent impact on vote choice no matter what his egocentric evaluation is. In contrast, a voter's egocentric evaluation has an independent impact on vote choice in specific cases. However, unlike the conventional wisdom, this result shows that egocentric evaluations have an independent effect on an individual's voting probability for incumbents.

Finally, the results of this dissertation show whether the expectation based on PH theory that voters jointly use the two economic evaluations to reward or punish incumbents is correct. As expected from PH theory, voters depend mainly on sociotropic evaluations for their vote choice but sociotropic-centered voters also use egocentric evaluations as a complementary criterion. The usage of egocentric evaluations is limited to those who share the same sociotropic evaluation. That is, egocentric evaluations make differences in the probability of incumbent voting only among those who share the same sociotropic evaluation. For example, among voters who express the same sociotropic economic evaluation, those who have a positive egocentric economic evaluation are most likely to vote for the incumbent president, those who have a neutral evaluation are less likely, and those who have a negative evaluation are least likely. In particular, among voters who said that their sociotropic evaluation is "better," those who have the highest probability of voting (79%) for the incumbent are in the group saying that egocentric evaluation is "better," the second highest (74%) are in the group saying that egocentric evaluation is "the same," and the lowest probability (70%) are in the group saying that egocentric evaluation is

“worse.” This phenomenon occurs also for voters who have “the same” and “worse” sociotropic evaluations.

Similarly, among voters who have the same egocentric economic evaluation, the probability of incumbent voting has differences according to their sociotropic evaluations. As the sociotropic evaluation goes to better from worse, the probability of incumbent voting increases among voters who have the same egocentric evaluation. However, the differences in the probability of incumbent voting according to different egocentric evaluation among voters who have the same sociotropic evaluation are much smaller than the differences according to different sociotropic evaluation among those who have the same egocentric economic evaluation. This result supports the idea that American voters are more sociotropic than egocentric, though this result also shows that egocentric evaluations make a statistically and substantively significant effect on vote choice. A merged sociotropic-egocentric scale of economic evaluations shows an effective summary measure for economic voting among the American populace.

5.4 The Ordinal Measurement and Economic Voting in US Presidential Elections

The nominal measurement of economic evaluations allows us to find new information on how voters jointly use the two different economic evaluations to reward and punish incumbents. On the basis of this finding, the final purpose of this dissertation is to propose a unidimensional scale of economic evaluations that can replace the traditional measurements. To construct the unidimensional measure of economic evaluations, it should be confirmed first that there is a hierarchical order in the probability of voting for the incumbent president for each of the nine categories of the nominal

economic evaluations. The results of Table 5.1 and Figure 5.1 support this expectation and show that voters place more weight on sociotropic evaluations than egocentric ones. The results of Table 5.1 and Figure 5.1 show that the probability of incumbent voting for American voters almost has a linear relationship with the order of the nine categories of paired economic evaluations. In Figure 5.1, as a voter's economic evaluation goes from worst to best on the basis of the sociotropic evaluation priority, the probability of voting for the incumbent president increases. In particular, the probability of incumbent voting will follow this sequence: "BB," "BS," "BW," "SB," "SS," "SW," "WB," "WS," and "WW." Given that the probability of voting for the incumbent for each of the nine categories has a patterned hierarchy, the nominal economic evaluation variable can be used as ordinal.

There is a practical advantage for the ordinal scale over the nominal. Categories are ranked from lowest to highest or from weakest to strongest rather than are simply classified either into or not into a category. This ordering of data provides a more detailed and precise idea of where data are placed in relation to one another as well as how basic information would be captured by the nominal scale (Manheim et al. 2008). Furthermore, the interval variable scale provides even more information than a nominal or ordinal scale does because not only can we classify or rank-order data with interval variables, but we can also figure out "how much more (or less) of the measured property they contain than other cases" (Manheim et al. 2008, 74). This feature of an interval scale allows researchers to use the more useful and simple statistical procedures available to compute means and standard deviations. Furthermore, in terms of interpretation, an interval scale is much more

straightforward than an ordinal scale (Long and Freese 2006, 421). To have this advantage, often ordinal variables are treated as though they were interval.

For example, subjective ratings scales such as political ideology (extreme liberal – extreme conservative), the feeling thermometer (0–100), or party identification (strong Democrat – strong Republican) may not meet the requirement of equal intervals. That is, we do not know whether the magnitude between extremely liberal and liberal is the same as that between neutral and slightly conservative. Also, we do not know whether the difference between strong Democrat and weak Democrat is the same as the difference between independent and lean Republican.

However, in order to take advantage of more powerful statistical techniques and simple interpretation, researchers often assume that the intervals are equal. Just as political scientists hold this assumption when treating categorical variables of party identification and political ideology as interval, they should do the same for economic evaluations. Hence, the nominal variable of economic evaluations can be utilized as an interval variable ranging from the most positive economic evaluation (sociotropic better and egocentric better) to the most negative economic evaluation (sociotropic worse and egocentric worse). However, in order to increase the robustness of analysis, a likelihood-ratio test can be conducted before using the ordinal measurement of economic evaluations as interval. Treating an ordinal independent variable as interval has an advantage, but “to take advantage of this simplicity [one] must make the strong assumption that successive categories of the ordinal independent variable are equally spaced” (Long and Freese 2006, 421). That is, it should be tested whether treating an ordinal independent variable as interval leads to a loss of information about the relationship between the independent and dependent variables. A

likelihood-ratio test can accomplish this (Long and Freese 2006, 421-422). If the test is significant, it shows that the categories of the ordinal independent variable are not equally spaced. Thus, it is not appropriate to treat the ordinal variable as interval. The likelihood-ratio test shows a value of 7.76 with $df=7$ and $p = .35$. The nominal indicators do not add more information to the model, implying that this measurement can be used as interval. For Table 5.2 (incumbent president running), LRX^2 is 4.95 with $df=7$ and $p=.67$. For Table 5.3 (not running), $LRX^2=3.46$ with $df=7$ and $p=.84$. This suggests that an interval level of measurement is appropriate for each of these samples as well (Long and Freese 2006, 421-422).

[Table 5.4 about here]

Table 5.4 presents statistical estimates from the logistic regression models using the voter's joint economic evaluation as a unidimensional interval variable. Economic voting is consistently observed in US presidential elections since 1980. Except for 2008, this new measure of economic evaluations results in a statistically significant and substantive effect on the probability of voting for the incumbent. Findings are comparable to models with two independent economic evaluation variables, but they have much stronger support for the incidence of economic voting. Under the traditional formulation, sociotropic voting is observed across elections except for 2000 and 2008, whereas egocentric voting is detected only in five out of ten elections.

Furthermore, when using the same control variables and sample size, the goodness of fit for models using the new interval measure is nearly identical to those models using the two traditional economic evaluation measurements. Therefore, this interval measure of

economic evaluations is an effective proxy for the two traditional, separate measures of economic evaluations. This improved economic evaluation index enables researchers to make an easier and simpler interpretation of the effect of economic perceptions on vote choice. Moreover, as to theory, it is more reasonable to assume that voters' decision-making process resembles a single metric of economic evaluation constructed by combining the sociotropic and egocentric retrospective economic evaluations.

5.5 Conclusion

This chapter reexamines economic voting in US presidential elections from 1980 to 2012 by using nine-category nominal and unidimensional ordinal variables of a voter's summary economic evaluations. In the extant literature of economic voting, American voters appear more sociotropic than egocentric. The findings of this chapter confirm this conventional wisdom about American voters. Nevertheless, American voters use their egocentric evaluation to make a choice too. Specifically, in US presidential elections from 1980 to 2012, American voters jointly use sociotropic and egocentric economic assessments for making vote decisions. To be specific, voters depends mainly on sociotropic evaluations for their vote choice. However, they use an egocentric perspective as a complementary criterion. The result of the logistic regression model using the nine-category nominal variable provides evidence for this argument. The probability of an incumbent vote for nine categories of a voter's summary economic evaluations are hierarchically placed according to the theoretical expectation. This confirms the theoretical expectation based on priority heuristics. A unidimensional scale of economic evaluations can replace the traditional measurements. This new retrospective economic scale works

well, compared with the two separate and independent measures of economic evaluations, it is empirically equivalent and theoretically stronger.

However, unlike scales for ideology or party identification, this retrospective evaluation comes with a caution. In a given election, particularly if national economic performance is strong or weak, voters share economic evaluations. Empirically, the number of survey respondents within a category may be too small. For instance, few respondents thought the national economy was doing well at the time of the 2008 presidential election. It may appear that an ordinal measure may not apply, but this is due primarily to the small number of respondents.

Table 5.1. Nine Economic Evaluation Categories on Vote Choice: US Presidential Elections, ANES, 1980 to 2012

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	1.104*** (.153)	.788*** (.019)	.236*** (.032)
Better	Same	.851*** (.188)	.742*** (.031)	.191*** (.040)
Better	Worse	.538** (.228)	.678*** (.045)	.126** (.051)
Same	Better	.269* (.146)	.617*** (.024)	.065* (.035)
Same	Worse	-.491*** (.170)	.429*** (.033)	-.122*** (.042)
Worse	Better	-.684*** (.154)	.383*** (.024)	-.169*** (.037)
Worse	Same	-.739*** (.154)	.370*** (.025)	-.182*** (.037)
Worse	Worse	-.959*** (.144)	.320*** (.019)	-.231*** (.034)
	PID	1.852*** (.050)		
	Male	-.033 (.073)		
	College degree	-.028 (.078)		
	Ideology	.657*** (.030)		
	1984	.315* (.173)		
	1988	-.017 (.169)		
	1992	.023 (.158)		
	1996	.192 (.183)		
	2000	-.044 (.213)		
	2004	-.333* (.186)		
	2008	.490*** (.152)		
	2012	.151 (.175)		
	Constant	-2.570*** (.208)		
n			7361	
Pseudo R ²			.513	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .551*** (.027). ***P<0.01, **P<0.05, and *P<0.1.

Table 5.2. Nine Economic Evaluation Categories on Vote Choice: When the Incumbent President Is Running

Variables		Logit Coefficients	Predicted Probability
Sociotropic Evaluation	Egocentric Evaluation		
Better	Better	1.196*** (.185)	.800*** (.021)
Better	Same	.878*** (.225)	.745*** (.035)
Better	Worse	.533** (.269)	.674*** (.052)
Same	Better	.256 (.180)	.610*** (.029)
Same	Worse	-.595*** (.208)	.401*** (.037)
Worse	Better	-.891*** (.194)	.332*** (.030)
Worse	Same	-1.063*** (.195)	.295*** (.029)
Worse	Worse	-1.245*** (.178)	.259*** (.022)
	PID	1.875*** (.061)	
	Male	-.097 (.092)	
	College degree	-.139 (.100)	
	Ideology	.615*** (.038)	
	1984	.153 (.181)	
	1992	.050 (.161)	
	1996	-.013 (.190)	
	2004	-.413** (.191)	
	2012	.024 (.181)	
	Constant	-2.135*** (.242)	
	n		4996
	Pseudo R ²		.536

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .548*** (.033). ***P<0.01, **P<0.05, and *P<0.1

Table 5.3. Nine Economic Evaluation Categories on Vote Choice: When the Incumbent President Is Not Running

Variables		Logit Coefficients	Predicted Probability
Sociotropic Evaluation	Egocentric Evaluation		
Better	Better	.846*** (.278)	.720*** (.046)
Better	Same	.749** (.351)	.700*** (.067)
Better	Worse	.548 (.434)	.657*** (.090)
Same	Better	.315 (.251)	.602*** (.045)
Same	Worse	-.182 (.322)	.479** (.068)
Worse	Better	-.172 (.261)	.482*** (.039)
Worse	Same	-.092 (.259)	.502*** (.042)
Worse	Worse	-.319 (.251)	.446*** (.032)
	PID	1.817*** (.086)	
	Male	.067 (.122)	
	College degree	.116 (.129)	
	Ideology	.732*** (.051)	
	2000	.179 (.198)	
	2008	.141 (.171)	
	Constant	-3.203*** (.305)	
n			2365
Pseudo R ²			.474

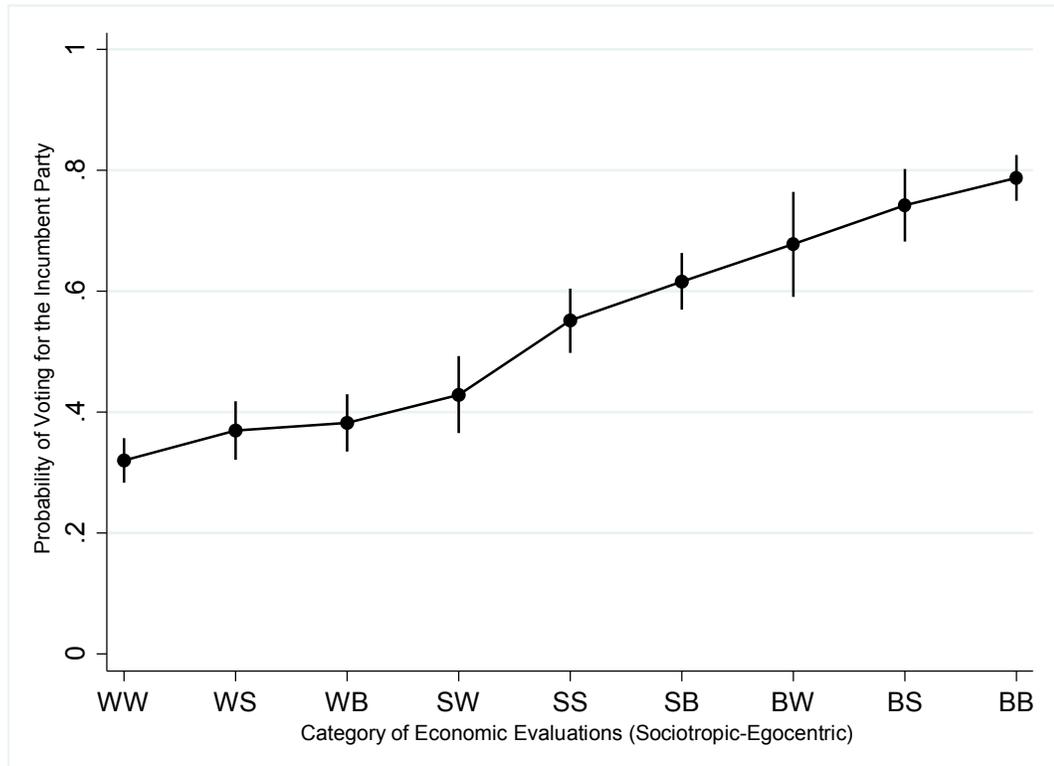
Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .525*** (.048). ***P<0.01, **P<0.05, and *P<0.1

Table 5.4. Interval Measure of Economic Evaluation on Incumbent Vote: US Presidential Elections, 1980-2012

	1980	1984	1988	1992	1996	2000	2004	2008	2012
Economic Evaluation	.192*** (.071)	.302*** (.038)	.204*** (.042)	.296*** (.054)	.309*** (.054)	.139** (.044)	.407*** (.058)	.020 (.059)	.359*** (.045)
Party ID	1.768*** (.167)	1.718*** (.137)	1.684*** (.135)	2.043*** (.146)	2.108*** (.172)	2.141*** (.256)	2.007*** (.225)	1.871*** (.135)	1.855*** (.130)
Male	-.236 (.232)	-.077 (.193)	-.024 (.195)	-.233 (.209)	-.017 (.253)	.662* (.340)	-.365 (.291)	-.026 (.179)	.238 (.222)
College degree	.045 (.273)	-.603*** (.226)	.056 (.211)	.195 (.221)	-.611** (.270)	.529 (.340)	-.115 (.321)	.004 (.189)	.200 (.228)
Ideology	.442*** (.090)	.520*** (.077)	.672*** (.084)	.816*** (.086)	.729*** (.112)	.772*** (.136)	.796*** (.133)	.772*** (.075)	.450*** (.098)
Constant	-2.803*** (.412)	-3.124*** (.418)	-3.740*** (.449)	-4.642*** (.447)	-4.023*** (.542)	-4.117*** (.745)	-5.329*** (.689)	-3.394*** (.370)	-3.699*** (.444)
n	559	977	871	1001	818	410	625	1084	1016
Pseudo R²	.370	.461	.425	.535	.569	.504	.612	.506	.624

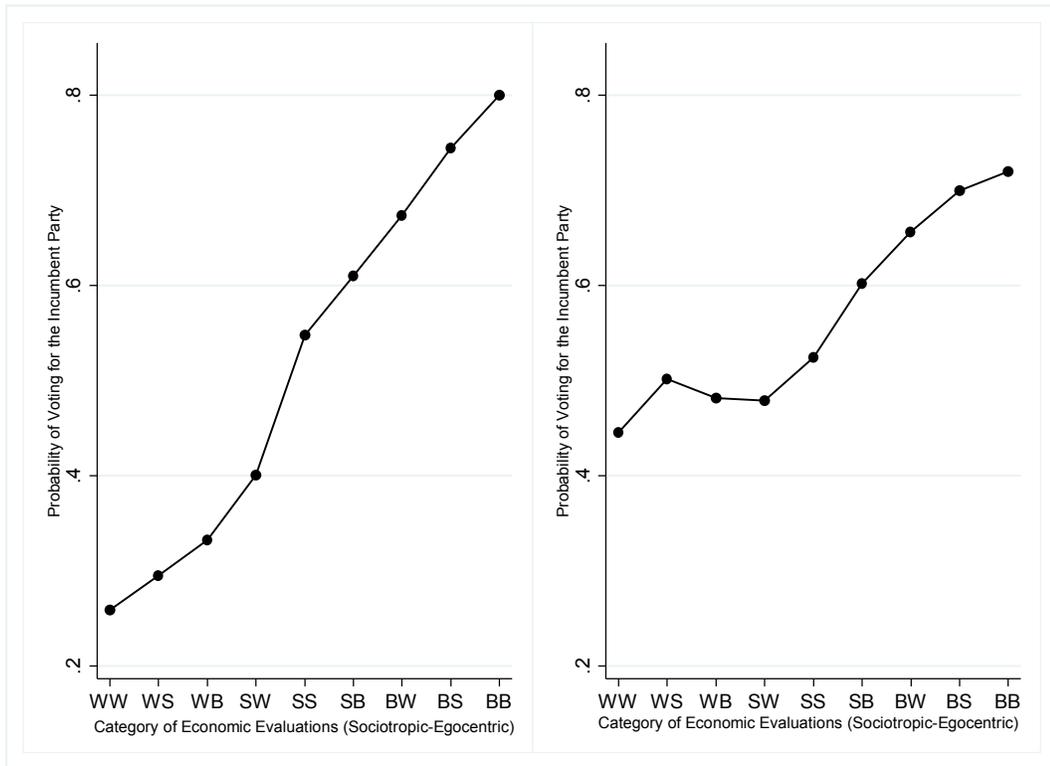
Note: Logistic regression with DV: vote for incumbent or not. Standard errors in parentheses. Ideology is on a scale from 1 (the most liberal) to 7 (the most conservative) when the incumbent is Republican, whereas the scale is reversed when the incumbent is Democrat. ***p<0.01, **p<0.05, and *p<0.10

Figure 5.1. Economic Evaluations on Incumbent Vote Probability, Nine Categories: Adjusted Predictions with 95% Confidence Intervals



Retrospective economic evaluations order is sociotropic first and egocentric second.
B=Better, S=Same, W=Worse.

Figure 5.2. Effects of Economic Evaluations on Incumbent Vote Probability, Nine Categories: When the Incumbent President Is Running and Is Not Running



(a) When the Incumbent President Is Running

(b) When the Incumbent President Is Not Running

Appendix 5-A. Nine Economic Evaluation Categories on Vote Choice with 7-pt Party Identification Scale: US Presidential Elections, ANES, 1980 to 2012

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	1.534*** (.126)	.851*** (.012)	.299*** (.024)
Better	Same	1.096*** (.148)	.787*** (.021)	.234*** (.029)
Better	Worse	.689*** (.184)	.711*** (.034)	.158*** (.040)
Same	Better	.215* (.116)	.605*** (.020)	.052* (.028)
Same	Worse	-.542*** (.138)	.418*** (.027)	-.134*** (.034)
Worse	Better	-.744*** (.127)	.370*** (.020)	-.183*** (.031)
Worse	Same	-.965*** (.126)	.320*** (.019)	-.233*** (.029)
Worse	Worse	-1.221*** (.119)	.267*** (.014)	-.286*** (.027)
	7-pt PID	.159*** (.014)		
	Male	-.113* (.060)		
	College degree	-.079 (.064)		
	Ideology	.965*** (.026)		
	1984	-.807*** (.141)		
	1988	-.870*** (.139)		
	1992	-.613*** (.130)		
	1996	-.511*** (.145)		
	2000	-.785*** (.169)		
	2004	-.952*** (.156)		
	2008	-.095 (.124)		
	2012	-.505*** (.133)		
	Constant	-3.690*** (.182)		
	n		7648	
	Pseudo R²		.341	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .553*** (.022). ***P<0.01, **P<0.05, and *P<0.1.

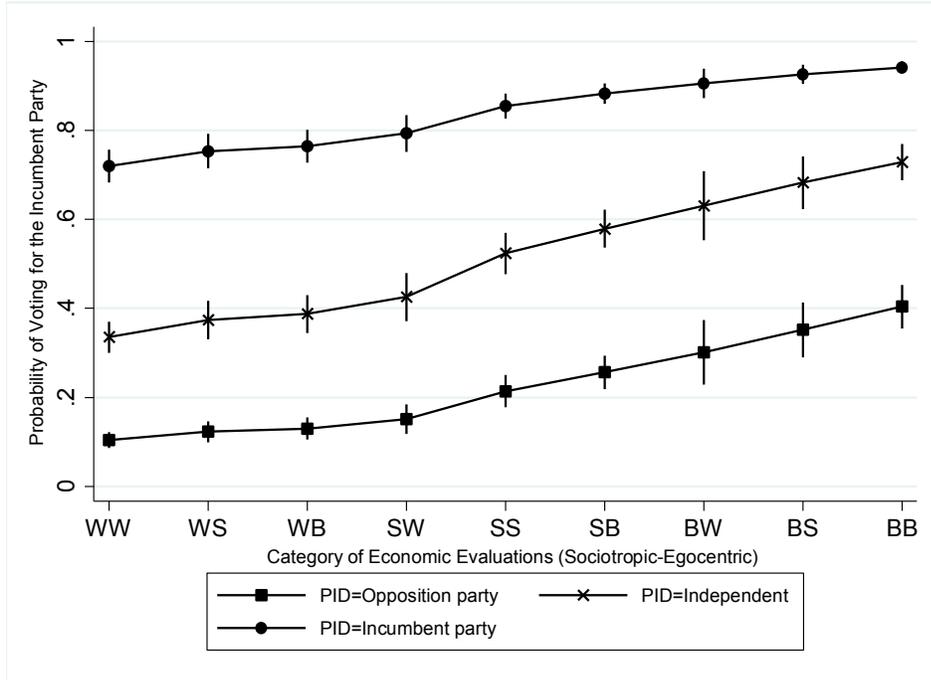
Appendix 5-B. Nine Economic Evaluation Categories of Nominal Measure on Incumbent Vote: US Presidential Elections, 1980-2012

		1980	1984	1988	1992	1996	2000	2004	2008	2012
S	E									
B	B	-.070 (1.640)	.845** (.366)	.896** (.374)	1.776* (.960)	1.554*** (.371)	1.140** (.491)	.596 (.553)	.558 (1.039)	1.497*** (.547)
B	S	.842 (1.452)	.425 (.388)	1.612*** (.607)	2.101 (1.290)	1.123*** (.424)	.624 (.500)	2.399** (1.140)	No cases	.109 (.647)
B	W	-.431 (1.096)	.358 (.454)	1.061** (.542)	-1.566 (1.782)	1.212* (.647)	1.142 (.949)	1.557 (1.111)	-.542 (1.505)	.008 (.701)
S	B	1.189 (.892)	.228 (.376)	.383 (.312)	.022 (.480)	.174 (.393)	.461 (.567)	1.433** (.577)	.729 (.895)	-.456 (.467)
S	W	.215 (.930)	-1.313*** (.419)	-.023 (.386)	-1.429** (.577)	.211 (.440)	.267 (1.093)	-1.111* (.603)	-.286 (1.027)	-.465 (.503)
W	B	-.757 (.666)	-1.014* (.525)	-.111 (.399)	-.807* (.417)	-.670 (.744)	.969 (.898)	-.769 (.561)	.790 (.762)	-1.431*** (.637)
W	S	-.618 (.687)	-1.934*** (.565)	-.446 (.387)	-.750* (.391)	-.945 (.874)	-.228 (.623)	-1.324 (.631)	.833 (.782)	-2.392*** (.765)
W	W	-.725 (.661)	-.952** (.402)	-.429 (.383)	-1.464*** (.394)	-.877 (.542)	1.204 (1.272)	-1.672 (.561)	.459 (.754)	-1.950*** (.544)
	PID	1.772*** (.174)	1.733*** (.143)	1.676*** (.138)	2.108*** (.154)	2.044*** (.166)	2.160*** (.269)	2.123*** (.242)	2.092*** (.148)	1.915*** (.174)
	Male	-.226 (.241)	.021 (.200)	-.021 (.202)	-.324 (.217)	-.135 (.243)	.777** (.360)	-.381 (.305)	.154 (.198)	.410 (.282)
	College degree	.140 (.289)	-.826*** (.244)	-.066 (.225)	.446* (.237)	-.768 (.256)	.336 (.364)	-.158 (.342)	-.267 (.225)	.648** (.296)
	Working class	.281 (.246)	-.617*** (.207)	-.268 (.206)	.746*** (.233)		-.515 (.363)	-.115 (.332)	-.343 (.204)	.708** (.304)
	Ideology	-.461*** (.094)	.552*** (.079)	.660*** (.086)	.817*** (.090)	-.809*** (.110)	.853*** (.144)	.831*** (.137)	.583*** (.076)	.463*** (.129)
	Constant	1.662*** (.753)	-1.118*** (.436)	-2.751*** (.477)	-3.402*** (.561)	3.746*** (.586)	-5.485*** (.892)	-3.225*** (.721)	-3.235*** (.853)	-6.605*** (.754)
	n	539	959	840	966	818	397	598	1013	708
	Pseudo R²	.380	.472	.431	.541	.580	.518	.629	.497	.651

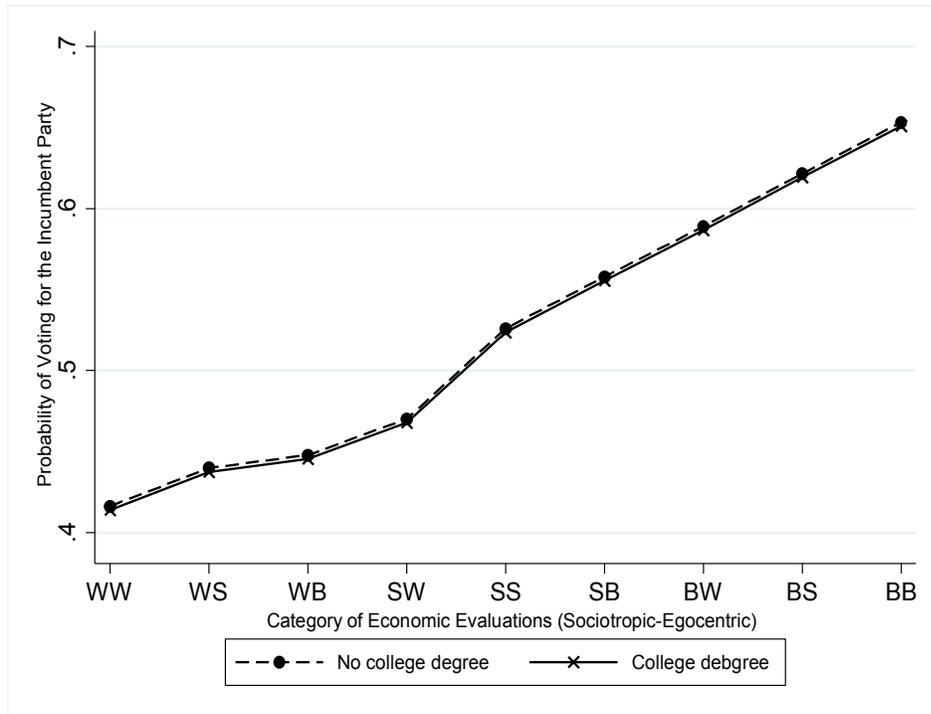
Note: Logistic regression with DV: vote for incumbent or not. Standard errors in parentheses. Ideology is on a scale from 1 (the most liberal) to 7 (the most conservative) when the incumbent is Republican, whereas the scale is reversed when the incumbent is Democrat. In 1996, there were no survey questions for social class in ANES time series. In 2000, there is a lot of missing observations for ideology because of split sample for 2000. ***P<0.01, **P<0.05, and *P<0.1

According to Table Appendix 5-B, results do not exactly follow the order suggested in Table 4.3 except for the 2012 presidential election. In the 2012 presidential elections, the probability of incumbent voting is the highest among those who evaluate both economies as better. Then, the order in the probability of incumbent voting for each group follows that of Table 4.3. However, in other elections such as 1988, 1992, and 2004, the highest group in the probability of incumbent voting is those of “sociotropic better and egocentric same,” not “sociotropic better and egocentric better.” In addition, in many elections, the probability of incumbent voting in each category does not follow the expected order of Table 4.3 and is sometimes not even statistically significant. However, this phenomenon occurs as a result of the small sample size of some categories.

Appendix 5-C. Effects of Economic Evaluations on Incumbent Vote Probability across Partisanship and Education, Nine Categories



(a) Partisanship



(b) Education

Chapter 6

Unidimensional Economic Voting in Britain and Canada

This chapter examines economic voting in Britain and Canada using the nine-category nominal and the ordinal measures of a voter's joint summary economic evaluation proposed in Chapter 4. In Chapter 5, it was confirmed that the unidimensional, ordinal variable constructed by combining sociotropic and egocentric evaluations can replace the two traditional, separate economic evaluation variables in economic voting models for US presidential elections. To test whether this new unidimensional measure can be used to estimate economic voting outside the United States, this dissertation considers recent British and Canadian elections. Britain and Canada are comparable to the United States because all are institutionalized democracies and economic voting is frequently observed across elections in these three countries. Moreover, they have similar political cultures and a similar electoral system.

First, in the United Kingdom, since the pioneering works of Butler and Stokes (1969, 1974), several studies (Miller et al. 1990; Heath et al. 1991; Norpoth 1992; Sanders 1996, 2003; Denver 2003; Clarke et al. 2004) have found evidence of retrospective economic voting in British general elections. In Canada, economic voting has also been used as an important explanation for Canadian voting behavior (Clarke and Kornberg 1992; Blais et al. 2002a; 2002b; Cutler 2002; C. D. Anderson 2008; 2010) and election outcomes (Happy 1986; 1989; 1992; Nadeau and Blais 1993; 1995; Gélinau and Bélanger 2005).

Second, like the United States, Britain and Canada have a SMDP electoral system. This system generally engenders two-party systems and avoids coalition government that

affect clarity of responsibility. The literature of economic voting found that voters have difficulty holding governments responsible for economic performance when they are confused about who is in charge of the responsibility of government, and thus the clarity of responsibility has been considered as the most important factor causing the different magnitude of economic voting (Powell and Whitten 1993). Party systems and the existence of a coalition government may affect the nature of economic voting. On one hand, the nature of economic voting differs in two-party systems versus in multi-party systems. The idea of economic voting implies the incumbent party enjoys electoral gains when economic performance is good but suffers losses when the performance is bad. In two-party systems, the changes in electoral support for the incumbent party are almost symmetrically reflected in electoral gains and losses of the opposition party.

However, in multi-party systems the gains and losses of the incumbent party do not always directly correspond to those of the opposition party because there are several alternatives other than the incumbent. In addition, when there is a coalition government, the method for estimating economic voting is different from traditional two party environments. In a coalition government, voters may often attribute the causes of economic outcomes to parties holding the chief executive office (C. J. Anderson 1995; Lewis-Beck 1997; Debus, Stegmaier, and Tosun 2014). Furthermore, as Lewis-Beck (1988) argues, voters may shift their support among parties within the coalition, which may hide evidence of economic voting that actually occurs. This vote-switching within governing coalitions can hide evidence of economic voting. Britain and Canada have two strong national parties and rarely have a coalition government. In the 2010 British general election, the Conservative Party under David Cameron won the largest number of votes and seats but

failed to get the majority in parliament. As a result, a coalition government was formed between the Conservatives and the Liberal Democrats; this was the first coalition in British history to eventuate directly from an election outcome. The 2015 British general election occurs after the analysis here.

Nevertheless, Canada has several minority governments that also blur clarity of responsibility. For example, there are three minority governments at the federal level after 2000: Liberal government under Paul Martin between 2004 and 2006, Conservative government under Stephen Harper between 2006 and 2008, and Conservative government under Stephen Harper between 2008 and 2011. These minority governments may weaken the linkage between a voter's economic evaluations and the incumbent's economic performance.

The remainder of this chapter proceeds as follows. First, it reviews the literature on economic voting in Britain and Canada with particular emphasis on sociotropic versus egocentric retrospective economic voting. Second, this chapter outlines the research design, the model specification, and data explanations. Third, using the nine-category nominal measure of a voter's summary economic evaluation, an analysis is conducted of the Canadian federal elections from 2000 to 2011 and the British general elections from 2001 to 2010. The results show how a voter's sociotropic and egocentric economic evaluations jointly affect his or her vote choice in Britain and Canada. Finally, the new ordinal measure of economic evaluations is applied for each country that is based on the results of the model using the nine-category nominal measure. It reexamines economic voting in Britain and Canada with the unidimensional, ordinal measure.

6.1 Literature Review: Economic Voting in Britain and Canada

Modern British politics has been dominated by two major parties, the Labour Party and the Conservative Party, and a third, smaller party, the Liberal Democrat Party. Although the Liberal Democrat Party constitutes the third largest party in British politics, its seat share in the British House of Commons is generally less than 10%. In 1997, the Labour Party earned 418 seats (63.4%) of the Commons; the Conservative Party, 165 seats (25%); and the Liberal Democrat Party, 46 seats (7%). In 2001, the Labour Party won 413 seats (62.7%); the Conservatives, 166 seats (25.2%); and the Liberal Democrats, 52 seats (7.9%). In 2005, Labour had 403 seats (55.1%); the Conservatives, 165 seats (30.7%); and the Liberal Democrats, 51 seats (9.6%). In 2010, the Conservative Party won 306 seats (47.1%); Labour, 258 seats (39.7%), and the Liberal Democrats, 57 seats (8.8%). Thus, the British government has been led by one of two major parties. After its 1997 landslide victory, the Labour Party under Tony Blair led the British government as a majority in parliament through the 2010 election. The Conservative Party as the largest party served as the official opposition during Labour government. During its three consecutive victories in British general elections, the Labour Party was able to achieve electoral benefits during the early 21st century in their campaigns by emphasizing a strong economy and low unemployment.

These victories of the Labour Party imply that an individual's perceptions about the economy influence party choice in British general elections. That is, in British politics, "economic voting is not the whole story, but it is a major element in explaining party choice in modern elections" (Denver 2003, 118). In Britain, economic voting research began with Butler and Stokes (1969). Since then, several studies (Butler and Stokes 1974; Miller et al.

1990; Norpoth 1992; Sanders 1996; 2003; Denver 2003; Clarke et al. 2004) have confirmed that individual economic evaluations played an important role in explaining British voting behavior.

In terms of the relative importance of sociotropic and egocentric retrospective economic evaluations, the findings of the previous British studies differ. Some find evidence supporting that a voter's egocentric economic evaluations affect vote choices. Butler and Stokes (1974) note that a voter's personal financial conditions have significant impacts on the mass electorate and their political attitudes. Miller et al. (1990) and Denver (2003) find that both sociotropic and egocentric evaluations matter but that the magnitude of sociotropic evaluations is greater than that of egocentric evaluations. In contrast, the results from Heath et al. (1991) show no significant impact of egocentric economic evaluations on vote choice in the 1987 election. Clarke et al. (2004) find that although both egocentric and sociotropic economic evaluations had significant impacts on vote choice in the 2001 British general election, the egocentric variable became insignificant and the sociotropic one remained significant when using a composite model including sociodemographic characteristics, party identification, issue-proximity, economic voting, issue performance, and feeling about party leaders. Sanders (2003) examines only the effect of sociotropic economic evaluations on vote choice in five general elections between 1974 and 1997 and finds evidence of sociotropic economic voting, presenting that even for strong party identifiers, sociotropic economic evaluations affect support for the governing party. Overall, there is no disagreement on the importance of sociotropic retrospective economic evaluations in British election studies. However, in terms of egocentric

retrospective evaluation, it mattered in some elections and did not in others. That is, the impact of egocentric economic evaluation on vote choices vary across election.

Canada has several political parties engaged in national politics. At the federal level, two major parties, the Liberal Party and the Conservative Party, have alternately held power in government in recent decades. The Liberal Party held power from the 1993 federal election until the 2006 federal election. During the 21st Century, the Liberal Party won the 2000 Canadian federal election with the majority of seats (172 of 301 seats) in the Canadian House of Commons. In 2004, the governing Liberal Party of Canada (135 of 301 seats) lost its majority but was able to form a minority government. In 2006, however, the Conservative Party became the largest party in Commons (124 of 308 seats) though it failed to win a majority, resulting in the smallest minority government since Confederation. The official opposition was the Liberal Party (103 seats). In 2008, the governing Conservative Party (143 of 308 seats) won the election but was still a minority government. In 2011, the Conservative Party formed a majority government by winning 166 of 308 seats. The Liberal Party gained the fewest seats (34 seats) in its history, whereas the New Democratic Party won the largest number of seats (103 seats) in its history. In short, similar to the two-party system of the United States, it seems that the two major parties led Canadian government.

However, Canadian and American politics differ. Canadian voters are offered more varied choices compared with American and British voters because minor parties have earned a significant number of seats in Canada's legislature. For example, the Bloc Québécois Party earned 38 of 301 seats in 2000; 54 seats in 2004; 51 seats in 2006; and 49 seats in 2008. The New Democratic Party earned 13 seats in 2000; 19 seats in 2004; 29

seats in 2006; 37 seats in 2008; and 103 seats (becoming the largest opposition party) in 2011. In addition, the status of Quebec within the Canadian federal system is unique to Canadian politics, distinguishing it from American and British politics (Clarke, Kornberg, and Scotto 2009, 17) because the supporters of the Bloc Québécois have different voting behaviors from Canadians in other regions. These features of Canadian politics may hinder the country's voters from translating their evaluations about the national and personal economy into vote choices. However, the Bloc Québécois only runs in Quebec. So, excluding Quebec in economic voting model for Canadian federal elections may help to avoid this problem. This dissertation excludes Quebec voters in its analysis.

Compared with the United States and Britain, relatively fewer economic voting studies has been conducted at the individual-level in Canada. Most studies (Happy 1986; 1989; 1992; Nadeau and Blais 1993; 1995; Gélinau and Bélanger 2005) on economic voting in Canada are conducted with the aggregate-level data. These studies examine, for instance, the relationship between incumbent vote share and disposable income, unemployment, and inflation and conclude that the incumbent party's vote share is highly related to macro-economic factors. Nevertheless, Clarke and Kornberg (1992), Blais et al. (2002a; 2002b), Cutler (2002), and C. D. Anderson (2008; 2010) found evidence of economic voting in Canada at the individual-level.

In the early stage of economic voting research in Canada, Clarke and Kornberg (1992), analyzing national cross-sectional and panel surveys conducted during the period from 1983 to 1990, find that both sociotropic and egocentric economic evaluations have strong explanatory power for predicting vote choice. However, their results show that Canadian voters are more influenced by their national economic evaluations than personal

financial evaluations. Blais et al. (2002b) also report that both sociotropic and egocentric economic evaluations had moderate but significant effects on individual vote choice in the 1997 Canadian federal election among voters outside Quebec. In addition, by using only sociotropic evaluations, C. D. Anderson (2008) analyzes the 1993 and 1997 Canadian federal and local elections. He finds that a voter's sociotropic economic evaluation has a significant impact on vote choice in both national-level and local-level elections. From these findings, it appears that both sociotropic and egocentric economic judgments affected Canadian voters' choices in the 1980s and the 1990s.

However, economic voting seems to be weaker in recent Canadian federal election. Extending the dataset, C. D. Anderson (2010) takes all four types of economic evaluations (sociotropic retrospective, sociotropic prospective, egocentric retrospective, egocentric prospective) into account and finds that sociotropic retrospective evaluation was significant only in two (1997 and 2006) of six federal elections (1988, 1993, 1997, 2000, 2004, and 2006), whereas egocentric retrospective evaluation was significant in only two others (1993 and 2000) of six elections. Gidengil et al. (2012) report that the economy had a strong effect on the probability of voting for the incumbent only in 2006, none in 2004, and a modest effect in 2000 and 2008. Gidengil et al. (2012) argue that the economy was not a crucial factor to Canadian voters in recent elections because it cannot explain Liberal dominance in the 2000 election and the decline of the Liberal Party in the successive three elections. In this vein, Clarke, Kornberg, and Scotto (2009) claim that the economy was a clear issue to help the Liberal Party in 2006, but it was not important in 2004. That year, selected position issues such as same-sex marriage and relations with the United States

received considerable attention by politicians and the media (Clarke, Kornberg, and Scotto 2009, 44).

6.2 Data and Method

This chapter examines economic voting with the nine-category nominal variable and the ordinal variable of a voter's summary economic evaluation in recent British general and Canadian federal elections. For this empirical analysis, this chapter analyzes the 2001, 2005, and 2010 British Election Studies (BES) and the 2000, 2004, 2006, 2008, and 2011 Canadian Election Studies (CES), exploring the recent general elections in both countries. An analysis of economic voting is conducted for British general elections and Canadian federal election after 2000 because economic voting are rarely tested in those elections. In addition, this dissertation focuses on elections occurred after 2000 because of congruence with other countries' time period. For South Korea and Taiwan, data are available only after 2000.

This chapter uses an accumulative dataset for each country. When using the nine-category nominal measure of economic evaluation, the size of the sub-sample for each of the nine categories is often too small for statistical analysis. See Appendixes 6-A and 6-B. To solve this problem, each different year's election studies have been integrated into a merged dataset for each country. Finally, when estimating economic voting in Canada, this analysis excludes Quebec because "the party system is different in Quebec, with the presence of the Bloc Québécois, the virtual absence of Reform, and the extreme weakness of the social democratic New Democratic party" (Blais et al. 2002b, 15). For the British case, Northern Ireland was excluded from the dataset.

The dependent variable is a respondent's actual vote choice. Specifically, it is measured as dichotomous, whether a vote for the incumbent party's candidate or for others. Non-voters are excluded from the analysis for simplicity and to follow the existing studies. Thus, for an empirical specification to examine economic voting, this analysis employs binary logistic regression models.

The main independent variable is a voter's summary economic evaluation. To measure the voter's economic evaluation, two different measurements are used. The first measure is the nine-category nominal variable of a voter's summary economic evaluations. This nominal measurement has nine categories created by pairing each category of sociotropic and egocentric economic evaluations. Each original economic evaluation has three categories, and the survey questions of BES and CES to capture a voter's sociotropic and egocentric economic evaluations are the same as those of ANES. The nominal measurement has a total of nine categories. If there is a missing value for an evaluation variable, the observation is excluded from the estimation. By using this nominal measurement, this analysis tests whether there is a hierarchical order in the probability of incumbent voting among those nine categories of a voter's summary economic evaluation referring to PH theory. If the economic voting models with the nine-category nominal variable confirms the expectation of this dissertation, the nominal measure will be treated as a unidimensional, ordinal variable to estimate economic voting in Britain and Canada. The ordinal variable is the second measurement of economic voting.

To account for noneconomic impacts on vote choice, this analysis includes control variables. To be specific, logistic regression models for British general elections include party identification, ideology, and gender, and those for Canadian federal elections include

party identification, ideology, education, and gender. Party identification is measured as an ordinal variable that has three categories: voters who identify with the incumbent party (coded as 3), those who identify as independents (coded as 2), and those who identify with the non-incumbent party (coded as 1). Ideology is originally measured as an ordinal scale from 1 (the most liberal) to 7 (the most conservative). However, in an accumulative model, the ordinal scale of ideology is reconstructed as 1 (the ideology farthest from that of the incumbent party) to 7 (the ideology closest to that of the incumbent party) for British models. On the other hand, in the 2000 Canadian election study, ideology was measured on a three-point scale from left to right. Thus, for Canadian cases, ideology is coded as an interval variable on a three-point scale from 1 (the ideology farthest from that of the incumbent party) to 3 (the ideology closest to that of the incumbent party). Gender is measured as dichotomous, 1 if a respondent is male and otherwise 0. Education is also measured as a dummy variable, 1 if a respondent has more than a college degree and otherwise 0.

For both countries, respondents were not consistently asked about social class variables across election studies. Thus, aspects of social class are not included as a control variable. Moreover, respondents were not consistently asked about the education variable in BES data, so that variable (whether a respondent has more than a college degree) is not included in British economic voting models.

6.3 Economic Voting with New Economic Evaluation Measurements in Britain

This section estimates the impact of a voter's summary economic evaluation on the probability of incumbent voting in British general elections of 2001, 2005, and 2010. The

nominal measurement of a voter's summary economic evaluation tests whether the probability of an incumbent vote for each of the nine categories of a voter's summary economic evaluation follows the sequence of the expectation proposed in Chapter 4.

To examine the impacts of sociotropic and egocentric economic evaluations on vote choice in recent British general elections, this chapter first estimates economic voting models with the two traditional, separate economic evaluation variables and three controls (party identification, ideology, and gender that are considered major factors that affect vote choice) in the 2001, 2005, and 2010 British general elections.

[Table 6.1 about here]

Table 6.1 shows results of logistic regression models estimating the effects of sociotropic and egocentric economic evaluations on vote choice in the 2001, 2005, and 2010 British general elections. Table 6.1 demonstrates that sociotropic economic evaluations are consistently significant and egocentric judgments are significant in only 2005 election (egocentric evaluation is significant at the 90% confidence interval in 2001). Furthermore, the impact of sociotropic evaluations is greater than that of egocentric ones when the two variables are simultaneously significant in a model. Therefore, similar to US presidential elections, both of the economic evaluations influence vote choice, but sociotropic voting is more consistent and powerful than egocentric voting in British general elections.

From the findings of the existing studies and Table 6.1, it is expected that British voters are more sociotropic than egocentric. Thus, the probability of incumbent voting for nine categories will follow what Table 4.3 presents on the basis of PH theory. Specifically,

the hierarchical order of the probability of incumbent voting for the nine categories is as follows: “BB,” “BW,” “BS,” “SB,” “SS,” “SW,” “WB,” “WS,” and “WW.” In addition, economic voting models with the nine-category nominal variable of a voter’s summary economic evaluation allow researchers to examine (a) whether there is a synergistic effect of the two economic evaluations on vote choice, (b) whether voters choose sociotropic or egocentric evaluations when they have conflicting economic evaluations of the two economies, and (c) how a sociotropic (egocentric) evaluation affects an incumbent vote choice when the other evaluation is fixed. Results from American elections may not travel to British or Canadian elections. This chapter examines whether Anglo-Saxon countries share similar forms of economic voting.

[Table 6.2 and Figure 6.1 about here]

Table 6.2 demonstrates the impacts of economic evaluations and control variables on the probability of a respondent’s vote choice for the incumbent party. Before discussing the impacts of economic evaluations on vote choice, one might be interested in the impacts of control variables. As expected, party identification is the strongest predictor in explaining the probability of an incumbent vote choice. Specifically, those who have partisan attachment to the incumbent party (the Labour Party) are more likely than those who have attachment to the other parties (the Conservative Party or the Liberal Democrat Party) or are independents to vote for the incumbent party. In terms of gender, female voters are more likely than male to vote for the Labour Party. However, unlike general expectations, ideology is not statistically significant. This result implies that party identification is still a strong determinant to affect vote choice.

For the impacts of a voter's economic evaluation on vote choice, only four categories are statistically significant. Compared with the reference category (both sociotropic and egocentric evaluations are "the same"), "BB," "WB," "WS," and "WW" show statistically meaningful different probabilities of incumbent voting. Specifically, a voter who has positive evaluations of the national and personal economies is more likely than a voter who has neutral judgments of the two economic conditions to vote for the incumbent party. Voters who have negative sociotropic economic evaluations are less likely than those who belong to the reference group to vote for the incumbent party no matter what egocentric evaluations they have. This result seems to indicate that British voters are more sensitive to a bad economy than a good one. This finding confirms the conventional wisdom about British voters. Denver (2003, 111) concludes that "in general, [economic voting] is more likely to involve punishing a bad performance rather than rewarding a good one."

Although not all categories are statistically significant, Table 6.2 and Figure 6.1 illustrate that the magnitudes of logit coefficients and predicted probabilities for the nine categories of a voter's summary economic evaluations exactly correspond to the expected sequence. The group with the highest predicted probability of incumbent voting is "BB" (44.6%), the second higher "BS" (42.6%), the third "BW" (38.5%), the fourth "SB" (37.2%), the fifth "SS" (36.5%), the sixth "SW" (32.6%), the seventh "WB" (22.3%), the eighth "WS" (19.9%), and the lowest "WW" (12.8%). Holding all variables in the model constant, the difference between the highest predicted probability of voting for the governing party and the lowest is 31.8%. Given that the sequence of the probability of an incumbent vote choice for each of the nine categories follows the expected ordering, British

economic voters use the two economic evaluations similarly to American economic voters. Furthermore, this result shows that the nine-category nominal measure of a voter's summary economic evaluation can be used as a unidimensional or ordinal measure for economic voting models of British general elections.

In addition, the result presented in Table 6.2 shows that when voters have convergent evaluations, the impact on an incumbent vote choice becomes stronger than when having divergent judgments. That is, "BB" has a higher probability of incumbent voting than "BS," and "BW," and "WW" has a lower probability than "WS," and "WB." It shows that there is a synergy between the two economic evaluations on the probability of an incumbent vote. For the question of whether voters follow sociotropic or egocentric evaluations when the two conflict, the result shows that British voters are more likely to base their choice on their sociotropic evaluations than their egocentric ones. For example, the predicted probability of incumbent voting for "BW" is 38.5%, whereas that for "WB" is 22.3%. This difference is substantively and statistically meaningful. In line with the findings of existing studies in the British economic voting literature, this result shows that the effect of sociotropic evaluation is greater than that of egocentric evaluation on vote choice.

Last, how does sociotropic (egocentric) evaluation affect an incumbent vote choice when the other evaluation is fixed? First, this chapter compares the predicted probability of incumbent voting for each sociotropic evaluation when the egocentric evaluation is fixed. When the latter is better, the predicted probability of incumbent voting for the positive sociotropic evaluation is .446, that for the neutral is .372, and that for the negative is .223. These three categories have statistically different probabilities of an incumbent vote. In the

same vein, when an egocentric evaluation is fixed as same and worse, there are statistically significant differences in the probability of incumbent voting between three categories of sociotropic evaluations. In contrast, when the sociotropic evaluation is fixed, there is no statistical difference between the neutral and the positive egocentric evaluations and between the neutral and the negative egocentric evaluations. When the sociotropic evaluation is fixed, there is only difference between the positive and the negative egocentric evaluations. British voters react more sensitively to the sociotropic evaluation than to the egocentric one, but their vote choices are also affected by their assessment of their pocketbooks.

The results demonstrate a hierarchical order in the probability of voting for an incumbent in British general elections. This implies that British voters jointly use the two economic evaluations to reward or punish their incumbents as expected by PH theory. Theoretically, it allows a researcher to use this nominal measure as an ordinal variable. As in the previous chapter, the ordinal economic evaluation variable will be treated as interval in this chapter. Unfortunately, a likelihood-ratio test does not support treating the ordinal variable as interval for this British election dataset. However, it is worth examining whether such treatment would show significant results for economic voting. Moreover, the trend shown in Figure 6.1 suggests linearity is not a bad assumption.

[Table 6.3 about here]

Table 6.3 shows the results of logistic regression models using the unidimensional ordinal measure of a voter's summary economic evaluation in the 2001, 2005, and 2010 British general elections. Economic voting was consistently observed in all three British

general elections. Using the two separate economic evaluation variables as independent in Table 6.1, sociotropic voting is consistently significant in all three elections, whereas egocentric voting is in two of three elections. When using the same control variables and sample size, goodness of fit such as R-square for models using the interval measure are almost identical to those using the two traditional measurements. Hence, this result shows that researchers can comfortably use the unidimensional ordinal measure of a voter's summary economic evaluations instead of the two separate economic evaluation variables to estimate economic voting or to control the effect of economic evaluations on vote choice in British general elections.

6.4 Economic Voting with New Economic Evaluation Measurements in Canada

Before examining economic voting of Canadian federal elections with new measurements, economic voting is estimated by using the two traditional, separate economic voting measurements. Table 6.4 illustrates the estimates of sociotropic and egocentric economic evaluations on the probability of an incumbent vote with four controls, party identification, ideology, education, and gender, in the 2000, 2004, 2006, 2008, and 2011 Canadian federal elections.

[Table 6.4 about here]

Table 6.4 shows that party identification consistently shows a strong effect on vote choice across all elections. Ideology and gender are significant in the 2000, 2008, and 2011 elections. The other controls do not show consistent impacts on vote choice. The main independent variables, the sociotropic retrospective economic evaluation is consistently

significant across elections except for 2011, whereas egocentric judgment is significant for only two (2000 and 2011) of five elections. Hence, unlike the existing studies, the results of Table 6.4 show that sociotropic retrospective economic voting is consistently significant in recent Canadian federal elections. This disparity may occur because the extant studies did not exclude Quebec voters and I exclude them. In addition, it appears that sociotropic voting is more powerful in accounting for incumbent vote than egocentric voting in Canadian federal elections in 2004, 2006, and 2008. Egocentric voting is more decisive than sociotropic in the 2000 and 2011 Canadian federal elections.

Applied to Canadian federal elections, this analysis estimates economic voting with an accumulative dataset of the 2000, 2004, 2006, 2008, and 2011 Canadian election data by using the nine-category nominal variable. Results for Canadian elections are similar to American and British cases but weaker. Table 6.5 and Figure 6.2 report the estimates of the nine categories of a voter's summary economic evaluations and other control variables on the probability of an incumbent vote choice.

[Table 6.5 and Figure 6.2 about here]

Before discussing the impacts of a voter's summary economic evaluations on an incumbent vote, this research briefly covers the impacts of control variables. Party identification and ideology show strong effects on a voter's incumbent voting. Specifically, when a voter has a partisan attachment with the incumbent party and/or when a voter has a close ideological attitude to that of the governing party, the individual is more likely than others to vote for the incumbent party. The result shows that gender and education are not important factors affecting Canadian voters' incumbent vote.

The main independent variable, a voter's summary economic evaluation, has a statistically significant impact on vote choice. Unlike the expectation, not all categories show statistical difference from the reference category in terms of the probability of incumbent voting. On the basis of the reference category (i.e., both sociotropic and egocentric evaluations are "the same"), however, four categories, "BB," "BS," "WS," and "WW," are statistically significant. Compared with the reference category, voters who have two positive economic evaluations or who have positive sociotropic and neutral egocentric evaluations are more likely to vote for the governing party's candidate, whereas voters who have two negative evaluations or who have negative sociotropic and neutral egocentric evaluations are less likely to vote for the incumbent party. Moreover, when we change the reference category to "WW," five categories ("BB," "BS," "BW," "SB," and "SS") are statistically significant. Therefore, overall, a voter's summary economic evaluation affects the probability of an incumbent vote choice.

In addition, the magnitude of the probability of incumbent voting for each category follows the sequence of the expectation, except for two categories. The magnitude and the sequence of predicted probability for the nine categories of a voter's summary economic evaluation are "BB" (43.4%), "BS" (37.3%), "SB" (32.3%), "SS" (31.2%), "BW" (28.5%), "WB" (28.4%), "SW" (26.7%), "WS" (23.6%), and "WW" (20.6%). Two deviant categories are "BW" and "WB." Unlike expectations, the "BW" category shows a lower probability of incumbent voting than "SB" and even the reference category, and the "WB" category has a higher probability than the "SW" category. Two possible explanations can be offered to account for these deviant cases. First, Canadian voters may consider egocentric economic evaluations to be as important as sociotropic evaluations. Thus, if at

least one of the two evaluations is negative, voters may perceive that the economic condition is worse than neutral. Likewise, if at least one of the two evaluations is positive, voters may perceive that the economic condition is better than a bad national economy and a neutral personal economy. Second, the small sample size of the two categories may cause misrepresentation. As Appendix 6-C demonstrates, the “BW” category contains only 4.8% (169 of 3516 observations) and the “WB” has 2.9% (103 observations).

The result in Table 6.5 does not perfectly conform to the expectation, but it implies that Canadian voters jointly use the two economic evaluations in a systematic way. As Figure 6.2 presents, the likelihood of incumbent voting for the nine categories is decided mainly by the sociotropic evaluation of whether it is better, the same, or worse. Then, the probability of an incumbent vote choice is affected by egocentric evaluation. Consistent with the theoretical expectation that is based on PH theory, Canadian voters make decisions relying mainly on their sociotropic economic evaluations but also use egocentric evaluations as a secondary criterion.

Following the previous analysis, this chapter examines whether there is a synergistic effect of the two economic evaluations on vote choice, whether a voter follows a sociotropic or an egocentric evaluation when the two economic conditions conflict, and how sociotropic (egocentric) evaluation affects an incumbent vote choice when the other evaluation is fixed. For the first question, the results of Table 6.5 show that there is a synergistic effect for the positive economic evaluations but no synergy for the negative economic evaluations. A voter who has positive evaluations of both economies has a higher probability of an incumbent vote than a voter who has only a positive evaluation of one of the two economies. However, a voter who has negative judgments of both economic

conditions does not have a higher probability of choosing the incumbent compared with a voter who has only one negative evaluation. For the second question, there is no evidence that Canadian voters are more sociotropic than egocentric when having conflicting evaluations. The predicted probability of incumbent voting for the “BW” category is .285 and that for “WB” is .284. There is no substantive, statistical difference. As mentioned, this finding can mean that Canadians are equally sociotropic and egocentric, or it might indicate a sample-size issue.

The analysis for the last question helps to figure out this problem. When a voter’s egocentric evaluation is fixed to positive or neutral, the change of sociotropic evaluation always produces a statistical difference in the predicted probability for incumbent voting. However, when a voter’s egocentric evaluation is negative, there is no difference in the predicted probability among positive, neutral, and negative sociotropic evaluations. In turn, when a voter’s sociotropic evaluation is fixed, there is a statistically significant difference between only the “BB” and the “BW” categories. Thus, when one of two economic evaluations is fixed, the change of egocentric evaluation almost cannot affect the probability of an incumbent vote whereas the change of sociotropic evaluation is more likely to influence on the probability of an incumbent vote. This analysis shows that Canadian economic voters are more sociotropic than egocentric.

Considering the results of all analyses for Canadian economic voters, a hierarchical order of the probability of incumbent voting for the nine categories does not perfectly correspond to the expectation based on PH theory in terms of the probability of incumbent voting. Nevertheless, considering the small sample size for each category, the results show that the predicted probability of an incumbent vote for the nine categories almost follows

the expectation. As discussed in Chapter 4, voting behavior researchers often use party identification or the ideology as ordinal or interval variable even though the results of those categories do not always perfectly follow the expected results. Thus, this research uses this nine-category nominal variable as a unidimensional ordinal measure to estimate economic voting in Canadian federal elections. As done in the previous chapter, the ordinal variable will be treated as interval. A likelihood-ratio test does not support treating the ordinal variable as interval for these Canadian election data. However, it is worth examining whether treating the ordinal variable as interval for these Canadian election data would show significant results for economic voting.

[Table 6.6 about here]

Table 6.6 presents the results of economic voting models estimated by using the interval variable of a voter's summary economic evaluation in the 2000, 2004, 2006, 2008, and 2011 Canadian federal elections. Economic voting was consistently observed across Canadian federal elections in 2000, 2004, 2006, and 2008, but not in 2011. When using the two separate economic evaluation variables in Table 6.2, unlike the American presidential elections and British general elections, there is no consistent tendency for sociotropic and egocentric voting in Canadian federal elections. Sociotropic voting was significant in 2000, 2004, 2006, and 2008 whereas egocentric voting was significant in 2000 and 2011. In addition, the impact of egocentric evaluations on vote choice was much greater than that of sociotropic in 2000 and 2011. The economic voting models in Table 6.6 use the unidimensional measure of a voter's summary economic evaluation constructed by an assumption that voters are more sociotropic than egocentric. The 2011 model of Table 6.6 shows no significant impact of economic evaluation on vote choice. In the 2011 model of

Table 6.2, sociotropic evaluation is not significant and egocentric one is significant. Nevertheless, except for the 2011 model, the models using the unidimensional measure show results similar to those of the models using the two separate economic evaluation variables. In addition, when using the same control variables and sample, R-squares for models using the unidimensional measure are almost identical to those models using the two traditional economic evaluation measurements. Hence, this unidimensional measure of a voter's summary economic evaluation can be a good alternative to the traditional two separate sociotropic and egocentric evaluation variables for researchers of Canadian politics who find a much simpler and integrated economic evaluation variable.

6.5 Conclusion

This chapter reexamines economic voting in recent British general elections and Canadian federal elections by using the nine-category nominal and the unidimensional variables of a voter's summary economic evaluations. The existing scholarship on British and Canadian economic voting finds that British economic voters are more likely affected by sociotropic evaluation than an egocentric one. Results for Canadian voters are inconclusive. The extant studies of Canadian voters even argue that the economic conditions were not a primary consideration of Canadian voters in their federal elections in the 2000s because most Canadians do not expect that the government should be responsible for the ups and downs of either the sociotropic or egocentric economic conditions (Gidengil et al. 2012, 82). The minority governments in the 2000s may affect this tendency. The results of this chapter show that British voters are more sociotropic than egocentric. Furthermore, British voters jointly use the sociotropic and egocentric economic evaluations to reward or punish their incumbents in a systematic way. As the theoretical

expectation from PH theory, British voters mainly use their sociotropic evaluation to make a decision, but this decision is supplemented by their egocentric evaluation. As a consequence, the nine categories of a voter's summary economic evaluations are ranked according to a hierarchical sequence in the probability of an incumbent vote choice. On the other hand, the results for Canadian federal elections contradict the existing studies. The previous studies on Canadian politics claim that the economy did not have a major impact on vote choice in the Canadian federal elections of the 2000s. The result of this chapter, however, shows that the economic judgments of voters did have a significant effect on the probability of an incumbent vote choice in recent Canadian federal elections. In addition, it seems that Canadian voters jointly use the two economic evaluations in a systematic way though it is not perfectly identical to the expectation. Seven of the nine categories of a voter's summary economic evaluation follow the sequence of the expectation of this dissertation in terms of the probability of an incumbent vote choice. The two deviant categories do not contain a sufficient sample size. It means that the unexpected results may occur due to this sample-size issue rather than actual voting behavior.

On the basis of the results of economic voting using the nine-category nominal variable of a voter's economic evaluation, economic voting may employ the unidimensional variable for recent British general and Canadian federal elections. Comparing the results of the economic voting model using the interval measure and those of models using the traditional two separate economic evaluation variables, sociotropic and egocentric, the signs and significance levels of logistic coefficients of economic evaluation variables and R-squares of models are almost identical in both British and Canadian cases. Therefore, the unidimensional measure of economic evaluations can be used instead of the

two traditional separate measures of economic evaluations with no fear of losing statistical power to predict the dependent variable for Britain and Canada. Furthermore, using the unidimensional measure of economic evaluation helps researchers make easier and simpler interpretation of the effect of economic evaluations on vote choice. In addition, for the theoretical expectation, it is more reasonable to assume that voters use a unidimensional scale of economic evaluations constructed by combining the sociotropic and egocentric economic evaluations. The results of this chapter shows that a new unidimensional measure of economic voting travels outside the US contexts, from presidential to parliamentary systems, and from two-party to multi-party systems. The next chapter examines whether this new unidimensional measure of economic voting applies to East-Asian democracies.

Table 6.1. Sociotropic and Egocentric Evaluations on Vote Choice: British General Elections in 2001, 2005, and 2010

	2001	2005	2010
Sociotropic Evaluation	.341*** (.103)	.856*** (.097)	.523*** (.159)
Egocentric Evaluation	.202* (.112)	.225** (.094)	.133 (.181)
PID	1.798*** (.093)	1.926*** (.090)	1.883*** (.161)
Male	-.045 (.161)	-.457*** (.137)	-.320 (.234)
Ideology	.025 (.041)	.026 (.037)	.087 (.057)
Constant	-5.012*** (.428)	-6.320*** (.382)	-5.479*** (.641)
n	1245	2097	710
Pseudo R²	.406	.465	.428

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses. Sociotropic and egocentric evaluations are coded as interval variables on three-point scale where 3=better, 2=same, and 1=worse. ***P<0.01, **P<0.05, and *P<0.1

Table 6.2. Nine Economic Evaluation Categories on Vote Choice: British General Elections in 2001, 2005, and 2010

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	.338** (.167)	.446*** (.032)	.081** (.040)
Better	Same	.259 (.180)	.426*** (.035)	.062 (.043)
Better	Worse	.088 (.236)	.385*** (.050)	.021 (.056)
Same	Better	.035 (.206)	.372*** (.041)	.008 (.047)
Same	Worse	-.172 (.205)	.326*** (.038)	-.039 (.046)
Worse	Better	-.694*** (.247)	.223*** (.038)	-.142*** (.046)
Worse	Same	-.831*** (.182)	.199*** (.023)	-.165*** (.035)
Worse	Worse	-1.364*** (.155)	.128*** (.012)	-.237*** (.029)
	PID	1.878*** (.060)		
	Male	-.287*** (.095)		
	Ideology	.040 (.025)		
	2005	-.153 (.109)		
	2010	-.244 (.150)		
	Constant	-3.691*** (.240)		
n			4052	
Pseudo R²			.446	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .365*** (.026). ***P<0.01, **P<0.05, and *P<0.1

Table 6.3. Interval Measure of Economic Evaluation on Incumbent Vote: British General Elections in 2001, 2005, and 2010

	2001	2005	2010
Economic Evaluation	.126*** (.030)	.274*** (.025)	.168*** (.041)
PID	1.799*** (.093)	1.927*** (.089)	1.882*** (.161)
Male	-.051 (.161)	-.461*** (.137)	-.320 (.234)
Ideology	.025 (.042)	.026 (.037)	.087 (.057)
Constant	-4.559*** (.370)	-5.531*** (.342)	-5.001*** (.576)
n	1245	2097	710
Pseudo R²	.405	.465	.428

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses.
 ***p<0.01, **p<0.05, and *p<0.10

Table 6.4. Sociotropic and Egocentric Evaluations on Vote Choice: Canadian Federal Elections in 2000, 2004, 2006, 2008, and 2011 (without Quebec)

	2000	2004	2006	2008	2011
Sociotropic Evaluation	.277** (.127)	.324** (.151)	.745*** (.192)	.320* (.172)	-.071 (.177)
Egocentric Evaluation	.452*** (.131)	.093 (.154)	-.235 (.186)	.220 (.175)	.430** (.213)
PID	1.836*** (.173)	1.630*** (.153)	1.848*** (.158)	1.875*** (.147)	1.919*** (.003)
Male	.388** (.180)	-.260 (.210)	-.148 (.227)	.347 (.224)	-.002 (.239)
College	-.067 (.186)	.051 (.229)	.285 (.228)	-.120 (.251)	-.411 (.269)
Ideology	.230* (.124)	.036 (.131)	-.048 (.138)	.800*** (.151)	.848*** (.155)
Constant	-6.503*** (.534)	-4.974*** (.575)	-6.200*** (.671)	-6.632*** (.616)	-6.449*** (.646)
n	884	609	656	686	681
Pseudo R²	.343	.227	.338	.456	.484

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses. Sociotropic and egocentric evaluations are coded as interval variables on three-point scale where 3=better, 2=same, and 1=worse. ***P<0.01, **P<0.05, and *P<0.1

Table 6.5. Nine Economic Evaluation Categories on Vote Choice: Canadian Federal Elections in 2000, 2004, 2006, 2008, and 2011 (without Quebec)

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	.524*** (.155)	.434*** (.031)	.122*** (.036)
Better	Same	.271** (.136)	.373*** (.024)	.061** (.031)
Better	Worse	-.130 (.228)	.285*** (.043)	-.027 (.047)
Same	Better	.048 (.185)	.323*** (.020)	.010 (.040)
Same	Worse	-.223 (.206)	.267*** (.036)	-.046 (.042)
Worse	Better	-.138 (.279)	.284*** (.054)	-.029 (.057)
Worse	Same	-.384** (.176)	.236*** (.028)	-.076** (.033)
Worse	Worse	-.558*** (.202)	.206*** (.029)	-.106*** (.035)
	PID	1.854*** (.062)		
	Male	.118 (.094)		
	College	-.079 (.100)		
	Ideology	.358*** (.061)		
	2004	-.201 (.138)		
	2006	-.651*** (.145)		
	2008	.709** (.148)		
	2011	.528*** (.143)		
	Constant	-5.140*** (.223)		
n			3516	
Pseudo R²			.366	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .312*** (.020). ***P<0.01, **P<0.05, and *P<0.1

Table 6.6. Interval Measure of Economic Evaluation on Incumbent Vote: Canadian Federal Elections in 2000, 2004, 2006, 2008, and 2011 (without Quebec)

	2000	2004	2006	2008	2011
Economic Evaluation	.134*** (.038)	.106** (.043)	.176*** (.055)	.124*** (.048)	.072 (.052)
PID	1.847*** (.112)	1.629*** (.153)	1.820*** (.156)	1.870*** (.146)	1.902*** (.150)
Male	.391** (.181)	-.259 (.210)	-.125 (.226)	.359 (.228)	0.025 (.003)
College	-.037 (.185)	.050 (.228)	.261 (.226)	-.105 (.249)	-.424 (.268)
Ideology	.243** (.132)	.035 (.130)	-.034 (.137)	.805*** (.151)	.863*** (.154)
Constant	-5.853*** (.381)	-4.666*** (.506)	-5.981*** (.556)	-6.170*** (.526)	-5.837*** (.514)
n	884	609	656	686	681
Pseudo R²	.339	.227	.331	.456	.480

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses.
 ***p<0.01, **p<0.05, and *p<0.1

Figure 6.1. Effects of Economic Evaluations on Incumbent Vote Probability, Nine Categories: British General Elections in 2001, 2005, and 2010

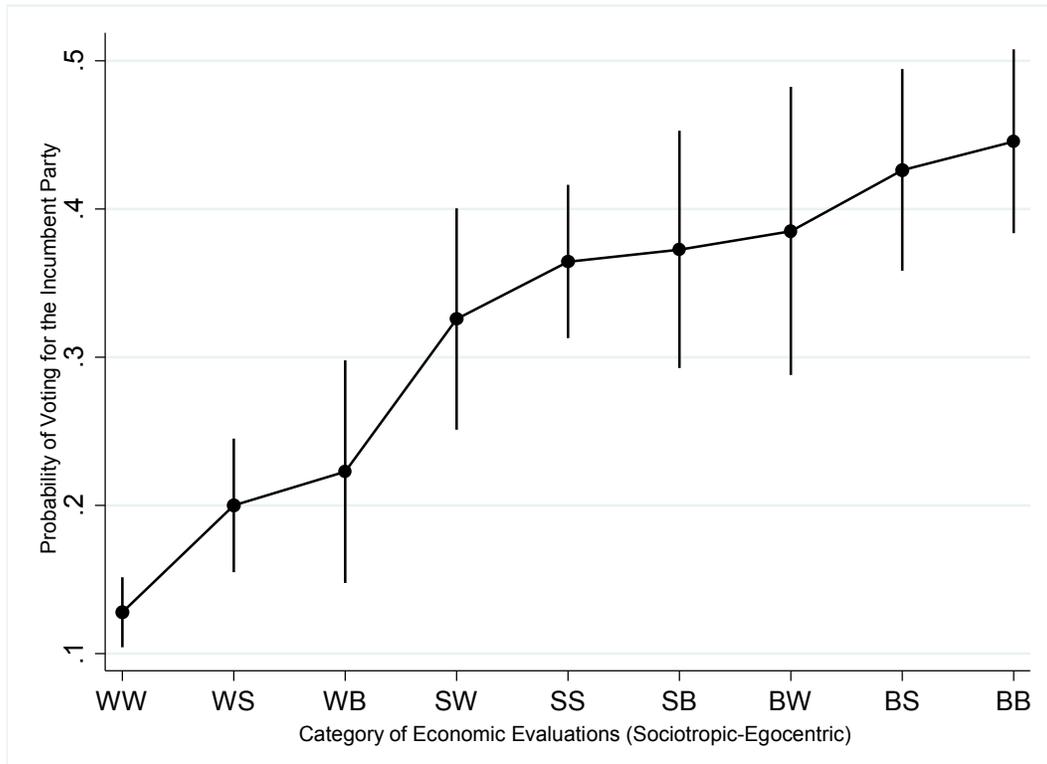
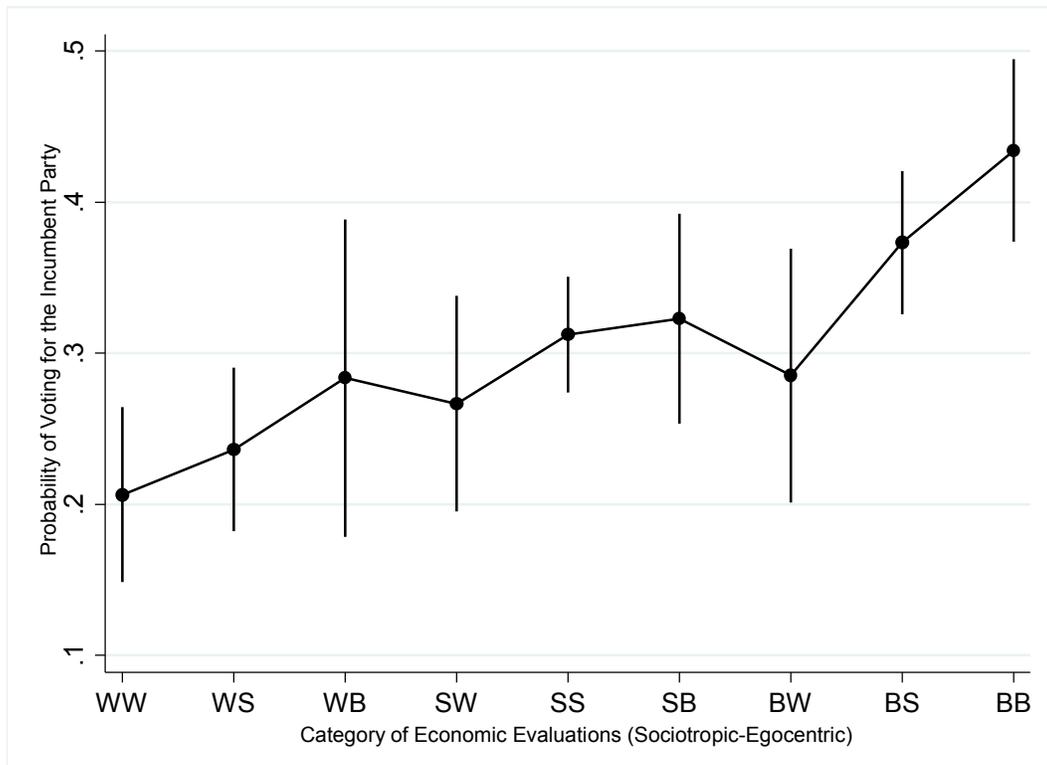


Figure 6.2. Effects of Economic Evaluation on Incumbent Vote Probability, Nine Categories: Canadian Federal Elections in 2000, 2004, 2006, 2008, and 2011 (without Quebec)



Appendix 6-A. Nine Economic Evaluation Categories and Sample Size: British General Elections in 2001, 2005, and 2010

	2001	2005	2010
National better Personal better	16.1% (483)	11.8% (370)	6.9% (63)
National better Personal same	14.3% (429)	6.1% (191)	7.6% (69)
National better Personal worse	6.2% (186)	3.4% (108)	3.5% (32)
National same Personal better	6.5% (194)	7.3% (229)	1.5% (14)
National same Personal same	18.7% (562)	17.3% (545)	7.2% (65)
National same Personal worse	7.0% (211)	8.9% (280)	3.1% (28)
National worse Personal better	4.6% (138)	4.2% (133)	4.8% (44)
National worse Personal same	11.7% (353)	8.7% (274)	19.5% (177)
National worse Personal worse	15.0% (450)	32.3% (1014)	45.9% (417)
Total	100% (2006)	100% (3144)	100% (909)

Note: Numbers in parentheses are total sample for each category. Yellow highlight denotes a category constituting less than 5% of total observations. If response for either sociotropic or egocentric evaluation question is missing, the observation is excluded.

Appendix 6-B. Nine Economic Evaluation Categories and Sample Size: Canadian Federal Elections in 2000, 2004, 2006, 2008, and 2011

	2000	2004	2006	2008	2011
National better	13.8%	7.0%	14.2%	5.7%	8.9%
Personal better	(479)	(287)	(550)	(175)	(373)
National better Personal same	21.9%	11.1%	22.9%	6.8%	21.7%
	(760)	(454)	(889)	(209)	(907)
National better Personal worse	5.8%	4.1%	5.82%	1.7%	4.2%
	(201)	(167)	(226)	(54)	(177)
National same Personal better	8.2%	9.0%	7.34%	8.3%	4.9%
	(284)	(370)	(285)	(257)	(203)
National same Personal same	27.5%	30.8%	27.87%	27.5%	31.0%
	(953)	(1264)	(1082)	(851)	(1297)
National same Personal worse	8.1%	10.3%	6.72%	6.2%	7.7%
	(281)	(423)	(261)	(193)	(321)
National worse Personal better	2%	3.4%	1.96%	7.1%	1.9%
	(71)	(138)	(76)	(219)	(79)
National worse Personal same	6.5%	12.7%	7.37%	21.0%	10.7%
	(227)	(522)	(286)	(650)	(446)
National worse Personal worse	6.1%	11.7%	5.85%	15.6%	9.1%
	(212)	(482)	(227)	(483)	(381)
Total	100%	100%	100%	100%	100%
	(3468)	(4107)	(3882)	(3091)	(4184)

Note: Numbers in parentheses are total sample for each category. Yellow highlight denotes a category constituting less than 5% of total observations. If response for either sociotropic or egocentric evaluation question is missing, the observation is excluded.

Appendix 6-C. Nine Economic Evaluation Categories and Sample Size: Canadian Election Studies for the Accumulative Dataset from 2000 to 2011

		Egocentric Economic Evaluations			Total
		Better	Same	Worse	
Sociotropic Economic Evaluations	Better	13.2% (465)	19.5% (687)	4.8% (169)	37.6% (1321)
	Same	7.4% (259)	26.1% (917)	6.8% (239)	40.2% (1415)
	Worse	2.9% (103)	10.3% (362)	8.9% (315)	22.2% (780)
Total		23.5% (827)	55.9% (1966)	20.6% (723)	100% (3516)

Note: Numbers in parentheses are total sample for each category. Yellow highlight denotes a category constituting less than 5% of total observations. If response for either sociotropic or egocentric evaluation question is missing, the observation is excluded.

Chapter 7

Unidimensional Economic Voting in South Korea and Taiwan

This chapter examines economic voting in South Korea and Taiwan. The previous chapters found evidence that voters consider both sociotropic and egocentric retrospective economic evaluations. The two judgments can be unified into a unidimensional scale with an ordering that voters are more sociotropic than egocentric in the United States, Great Britain, and Canada. These three countries are institutionalized democracies with a long history of democratic values and institutions. New democracies, however, may differ from the institutionalized democracies in terms of political cultures and circumstances that affect the voting behavior of citizens. Although economic voting theory focuses on the rationality of voting behavior rather than cultural characteristics, different political cultures and values can lead to a different decision-making process of economic voters. Some previous studies (Duch 2001; Tucker 2006) argue that economic voting is weaker in new democracies because voters are less familiar with using elections as sanctioning devices for incumbent government performance.

To test whether the unidimensional economic evaluation developed here can be applied to new democracies, this dissertation selects South Korea and Taiwan. There are several reasons to choose these two countries for this analysis. First, South Korea and Taiwan have adopted democratic institutions similar to those of the United States: presidential systems and plurality electoral systems. Consequently, the two countries have been led mainly by two major parties. These features allow researchers to avoid the issue of a coalition government, which weakens economic voting (Powell and Whitten 1993). Thus, these two cases allow a most similar system approach to test for economic voting.

Second, South Korea and Taiwan have a similar history of democratic development. Until the 1980s, the two countries were ruled by authoritarian regimes that were based on anti-communist ideology. The two countries experienced democratization movements and succeeded in establishing democratic governments. Third, some recent election survey data allowing researchers to examine both sociotropic and egocentric economic voting have been released in South Korea and Taiwan. On the basis of these data, the existing studies examined economic voting in the two countries. Early studies such as Kim (1993), Pak (1993), Hwang (2000), and Lee (2000) for South Korea and Hsieh, Lacy, and Niou (1998; 2003) for Taiwan fail to observe economic voting. However, recent studies find evidence of economic voting in the two countries. For the South Korean case, see Choi (2007), Kwon (2008), Kang (2012), and Lee and Glasure (2012). For the Taiwanese case, see Gomez and Wilson (2006), Choi (2007), and Lacy and Niou (2012).

The remainder of this chapter proceeds as follows. First, this chapter begins with the literature on economic voting in South Korea and Taiwan. Second, this chapter outlines the research design, the model specification, and data. Third, using the nine-category nominal measure of economic evaluations, this chapter reveals how a voter's sociotropic and egocentric economic evaluations jointly affect his or her vote choice in the presidential of 2007, the legislative election of 2008, and the local election of 2010 in South Korea, and the Taiwanese presidential elections of 2004, 2008, and 2012. It suggests a new ordinal measure of economic evaluations for each country that is based on the results of the model using the nine-category nominal measure. Finally, this chapter reexamines economic voting in South Korea and Taiwan with the new unidimensional measure.

7.1 Literature Review: Economic Voting in South Korea and Taiwan

Since 1987, South Korea has regularly held democratic elections. Two major parties (the Grand National Party and the New Politics Alliance for Democracy Party) have dominated Korean politics since the second presidential election after democratization. Though the names of the two parties have changed several times, the main composition of the membership and the ideological positions of the parties have remained similar. The Grand National Party changed its name to the Saenuri Party in February 2012. It was called the New Korea Party between 1995 and 1997, the Democratic Justice Party between 1980 and 1995, and the Democratic Republican Party between 1963 and 1980. The Korean elections analyzed here were held between 2007 and 2010, so the Grand National Party name is used. The Democratic Party also changed its name to the New Politics Alliance for Democracy after merging with the New Political Vision Party in 2014. Previously, it was called the Democratic United Party between 2011 and 2013, the United Democratic Party between 2008 and 2011, the United New Democratic Party in 2007, the Uri Party between 2005 and 2007, the Millennium Democratic Party between 2000 and 2005, and the National Congress of New Politics Party in 1997.

There was no alternation of power in government between the two major political parties until 1997. The Grand National Party ruled the Korean government until the 1997 presidential election. Kim Dae-jung of the National Congress of New Politics Party, the former New Politics Alliance for Democracy Party, won the 1997 presidential election, so South Korea had its first president from the opposition party. In the 2002 presidential election, Roh Moo-hyun of the Millennium Democratic Party, the former National Congress of New Politics Party, won the election. However, in 2007, Lee Myung-bak of

the Grand National Party won the presidential election, and the Grand National Party held onto its power in government since then.

A series of efforts examined the impact of economic perceptions on vote choices and electoral outcomes in South Korea. According to the existing scholarship on economic voting in South Korea, the impact of a voter's economic evaluations on vote choice showed no significance in the elections shortly after democratization in 1987. But the economy came to play an important role for Korean voters after the 2002 presidential elections. Kim (1993) and Pak (1993) find no evidence for the effect of economic issues on vote choice in the 1992 presidential election. Kim (1993) argues that political cleavage based on regionalism was so dominant that other issues such as the economy did not affect vote choice in 1992. Lee (2000) and Hwang (2000) also fail to find substantive effects of the economy on vote choice in the 1997 presidential election. Lee and Glasure (2012), however, discover significant effects of sociotropic economic evaluations on vote choice in the 2002 Korean presidential election, but they find no evidence for egocentric economic voting. In addition, Kwon (2008) and Kang (2012) find that a voter's retrospective sociotropic economic evaluation affected vote choice in the 2007 presidential election.

Going beyond studies examining economic voting in a single election, Choi (2007) analyzes the three Korean presidential elections of 1992, 1997, and 2002. She detects no evidence for egocentric voting in the three elections, whereas sociotropic voting is observed in the 2002 election. Choi argues that economic voting was unobserved in the 1992 and 1997 Korean presidential elections because one-party dominance hindered ability of Koreans from basing votes on the government's economic performance. Korean voters had not experienced an opposition party's ability to handle the economy because

opposition parties were unable to demonstrate the ability to run the national government. Korean voters had no retrospective confidence that the opposition party could handle the economy better than the ruling party. In the 2002 presidential election, however, Koreans were able to compare the economic performances of the ruling and opposition parties in power, which allowed voters the opportunity to be involved in economic voting.

In addition, the Asian financial crisis that began in Thailand in July 1997 devastated the economy of South Korea. As a result, countless Koreans lost their jobs and numerous companies collapsed. The 1997 financial crisis increased Koreans' attentions and concerns about the economic issues. According to Kim (2005), Korean society underwent significant change in terms of economic and political circumstances. In particular, the impact of regionalism over the electoral decision making weakened after 1997 Korean financial crisis (Kim 2005).

In this sense, economic issues may be considered important determinants of vote choice in the 2007 presidential and the 2010 parliamentary elections. Jung and Kwon (2009) argue that Lee Myung-bak, the presidential candidate of the Grand National Party (GNP) won the 2007 presidential election on the basis of a campaign attacking the economic failure under the governing party (the United New Democratic Party) and emphasizing his leadership and experience as a CEO of a large corporation and a mayor of Seoul. Choi and Park (2012) claim that the economic downturn around 2010 influenced the government party to lose a significant number of seats in the 2010 local election. Overall, the extant studies of economic voting in South Korea show that sociotropic economic voting became stronger as time goes by, but egocentric voting was not observed even in recent elections.

Taiwan has a much stronger history of one-party dominance. The Kuomintang (KMT) Party led Taiwan's government for four decades (between 1949 and 2000) until Chen Shui-bian of the Democratic Progressive Party (DPP) was elected as the president in the 2000 presidential election. Chen Shui-bian and the DPP won the 2004 presidential election again but were defeated by the KMT's Ma Ying-jeou in the 2008 presidential election. Unlike voters in the United States and European democracies, it is conventional wisdom that Taiwanese voters pay much more attention to foreign affairs than to the economy (Li, James, and Drury 2009; Lacy and Niou 2012). The main foreign affairs issue is the relationship with mainland China. Political parties and voters are divided by the debate about whether Taiwan should seek unification with China or declare its independence. The two major parties of Taiwan are the KMT Party and the DPP; the former claims unification with main land China whereas the latter seeks independence. In 2004, political parties were grouped into two allies: the pan-green (KMT and the People First Party) that supported unification with China and the pan-blue (DPP and Taiwan Solidarity Union) that argued for independence.

Consequently, existing studies find little evidence for the effects of a voter's retrospective economic evaluations on party choice. Hsieh, Lacy, and Niou (1998) find no evidence for any effect of retrospective economic evaluation on vote choice in the 1996 Taiwanese presidential election. Their follow-up study in 2003 that analyzes the 2001 Taiwanese Legislative Yuan election also reports that Taiwanese voters are not economy-centered. More recently, however, by analyzing the 1996, the 2000, and the 2004 presidential elections of Taiwan, Choi (2007) finds evidence for sociotropic voting in the 2004 elections despite finding no evidence of egocentric voting in the three elections.

Gomez and Wilson (2006) also find evidence for sociotropic voting but not egocentric voting by analyzing the 2001 Taiwanese legislative Yuan election. Lacy and Niou (2012) examine the 2008 presidential election and find that sociotropic economic evaluations show a significant effect on vote choice only for highly sophisticated voters, whereas egocentric evaluations do not have a significant impact at any sophistication level. Lacy and Niou (2012) argue that weak economic voting in the 2008 Taiwanese presidential election is due to the fact that the most important issue of that election was the unification with mainland China versus Taiwan's independence.

However, the result could be more likely affected by the highly skewed sample distribution. In the 2008 Taiwan Election and Democracy Survey (TEDS), in response to a retrospective economic evaluation question, 65% of voters believed the economy worsened, 30% believed it stayed the same, and less than 5% believed it improved. Moreover, in 2008, the incumbent President did not run due to term limits, which weakened economic voting. In short, economic voting is not frequently observed in Taiwan because foreign policy issues are dominant. In recent elections, however, sociotropic economic voting is observed, though egocentric is not. Therefore, it seems that Taiwanese voters have begun to concern about the economic performance of their government to make decisions in recent elections, but this concern is limited to the condition of the national economy, not their own financial conditions. That is, according to the existing studies, a voter's egocentric economic evaluation does not significantly affect vote choice in Taiwan. Therefore, it seems that Taiwanese economic voters are more sociotropic than egocentric.

7.2 Data and Method

This chapter examines economic voting with the nominal and the unidimensional ordinal variable of summary economic evaluations in South Korea and Taiwan. For South Korea, due to the data availability, this research analyzes the 2007 presidential, the 2008 legislative, and the 2010 local elections by using the South Korean Presidential Election Panel Study: Six Waves, 2007 (ICPSR 26661), South Korean General Election Panel Study: Two Waves, 2008 (ICPSR 34348), and South Korean Local Election Panel Study: Nationwide Two Waves, 2010. These three survey data were designed and collected by East Asia Institute, JoongAng Ilbo, Seoul Broadcasting System, and Hankook Research Company. For Taiwan, this research analyzes the 2004, 2008, and 2012 presidential elections by using TEDS for the same years. Consistent with the previous chapters, this one uses accumulative datasets when estimating economic voting with the nine-category nominal measurement of economic evaluations because the size of the sample for each category is often too small for statistical analysis. Therefore, individual survey data are unified into an accumulative dataset for both countries.

The dependent variable is a respondent's reported vote choice. Specifically, it is measured as dichotomous, whether vote for incumbent or for other candidates. Non-voters are excluded from the analysis for simplicity and to follow the existing studies. For an empirical specification to examine economic voting, logistic regression models are employed.

The core independent variable is a voter's summary economic evaluation. Two different measures, a nine-category nominal and a nine-point ordinal, are used to capture a

voter's summary economic evaluation in this chapter. Each measure is constructed in the same ways as in the previous chapters. By using the nominal measurement, this analysis tests whether there is a hierarchical order in the probability of incumbent voting among those nine categories of economic evaluations referring to the PH theory. After testing if the nominal measurement can be used as ordinal, this chapter will examine economic voting in South Korea and Taiwan with the nine-point ordinal measurement of economic evaluation. This ordinal measurement will be treated as interval in logistic regression models.

Several controls are also included to account for noneconomic impacts on vote choice. Controls are party identification, ideology, gender, and education. For both countries, respondents were not consistently asked about social class variables across election studies. Thus, social class is excluded as a control variable. Moreover, social class is not considered an important factor affecting vote choice in South Korea and Taiwan. In addition, respondents were not asked about the ideological self-placement variable in the 2012 TEDS data. Thus, the ideology variable is excluded in Taiwan's economic voting models when using the accumulative dataset. Party identification is measured as an ordinal variable that has three categories, voters who identify with the incumbent president's party (coded as 3), those who identify as independents (coded as 2) and those who identify with non-incumbent president's party (coded as 1). Ideology is basically measured as an ordinal scale from 1 (the most liberal) to 7 (the most conservative). However, in an accumulative model, the ordinal scale of ideology is reconstructed as 1 (the ideology farthest from that of the incumbent party) to 7 (the ideology closest to that of the incumbent party). Gender is measured as dichotomous, 1 if a respondent is male and otherwise 0. Education is also

measured as a dummy variable, 1 if a respondent has higher than a college degree and otherwise 0.

7.3 Economic Voting with New Economic Evaluation Measurements in South Korea

This section begins with examining the impact of sociotropic and egocentric economic evaluations on vote choice in South Korea with the two traditional, separate economic evaluation variables including main control variables (party identification, ideology, education, and gender).

[Table 7.1 about here]

Table 7.1 shows results of logistic regression models using traditional measures of economic evaluations in the 2007 presidential, the 2008 legislative, and the 2010 local government elections in South Korea. Table 7.1 shows that sociotropic economic evaluations are consistently significant and egocentric judgements are only significant in the 2007 presidential election. This result supports existing studies (Jung and Kwon 2009; Choi and Park 2012) arguing that the economy was one of the most important issues in the 2007 presidential and 2010 local elections. In addition, the impact of sociotropic evaluations was always greater than that of egocentric ones, whatever significant or not, and including when the two variables were simultaneously significant in 2007. This result is also in line with the findings that sociotropic voting is stronger than egocentric in South Korea. Therefore, it is clear that Korean voters care about the economy when they vote, and they are more sociotropic than egocentric.

On the basis of this finding, it is assumed that the order of the probability of voting for the incumbent party will follow what Table 4.3 proposed, which is a sociotropic priority model. If the probability of incumbent voting for each of the nine categories has a hierarchical order corresponding to the expectation, the new unidimensional measure of economic evaluation can be used to estimate economic voting in South Korea. In addition, by using the nominal measurement of economic evaluation, three questions are tested: whether there is a synergistic effect of the two economic evaluations on vote choice, whether voters choose sociotropic or egocentric evaluations when the two conflict, and how sociotropic (egocentric) evaluation affects an incumbent vote choice when the other evaluation is fixed.

[Table 7.2 and Figure 7.1 about here]

Table 7.2 and Figure 7.1 show the results of a logistic regression model estimating the impacts of the nine categorical economic evaluations and other control variables on the probability of voting for the incumbent party in the 2007 presidential, the 2008 legislative, and the 2010 local election in South Korea. As noted, this research uses an accumulative dataset for this model.

First, in terms of control variables, party identification, ideology, and education are statistically significant. For the three Korean elections, the incumbent party was the Grand National Party. If a voter has partisan attachment to the incumbent party, the individual is more likely to vote for that party's candidates. As a voter's ideology moves closer to conservative from liberal, the probability of voting for the incumbent party's candidate increases. In addition, voters who have a college degree or higher are more likely than

those who do not to vote for the incumbent party's candidate. Gender, however, does not affect vote choice.

Second, for the main independent variable, a voter's summary economic evaluation appears to have a statistically significant impact on vote choice. Unlike the US model presented in Chapter 5, not all categories have statistically significant effects on vote choice compared with the reference category, the group that claims that both sociotropic and egocentric evaluations are the same. This might be caused by the small sample size for each of the nine categories. Nevertheless, "BB," "BS," "WS," and "WW" categories show statistically significant impacts. This means that voters who positively evaluate both the national and personal economies or those who evaluate that the national economy is positive and the personal is neutral are more likely than those who have neutral evaluations of both conditions to vote for the incumbent party's candidate. Also, voters who negatively assess both economic conditions or those who judge the national economy is negative and personal economy is neutral are less likely than the reference group to vote for the incumbent party's candidate. In addition, the probability of voting for the incumbent party's candidate for each category is equal to the expectation of this dissertation except for the "BW" category. As Appendix 7-A shows, the number of respondents in this category "BW" is 99, and it occupies only 1.64% of the total sample even before excluding missing values for the dependent and control variables. Thus, the unexpected result for the "BW" category might be affected by this sample-size issue. Except for the "BW" category, the predicted probabilities of the combined nine categories follow the expectation.

According to Table 7.2, the magnitudes of predicted probability for the nine categories of economic evaluations are as follows: "BB" (42.5%), "BS" (38.1%), "BW"

(23.4%), “SB” (32.6%), “SS” (28.3%), “SW” (27.7%), “WB” (24%), “WS” (21.1%), and “WW” (20.3%). For example, holding all variables at their mean values, the predicted probability of voting for the incumbent party’s candidate is 42.5% (the highest probability) among those who said that both sociotropic and egocentric economic evaluations are positive, whereas the predicted probability is 20.3% (the lowest probability) among those who evaluated both evaluations as negative. The difference in the predicted probability for an incumbent vote between the highest probability group and the lowest is 22.3%. This is a substantively significant difference.

Finally, this result shows further information of economic voters in South Korea: whether there is a synergistic effect of the two economic evaluations on vote choice, whether voters choose sociotropic or egocentric evaluations when they conflict, and how sociotropic (egocentric) evaluation affects an incumbent vote choice when the other evaluation is fixed. For the first question, this analysis finds that the two economic evaluations create synergy for an incumbent vote choice. When voters have convergent evaluations, the impact on an incumbent vote choice is stronger than when they have divergent judgments. For the second question, the predicted probability for a voter who has judgments of a positive sociotropic economy and a negative egocentric economy does not statistically and substantively differ from that for a voter who holds the reverse assessment. The probabilities are 23.4% for the “BW” category and 24% for the “WB”. As mentioned, however, the sample size for “BW” is too small to estimate its effect on the dependent variable. Therefore, with this result, it is hard to claim that Korean economic voters consider the personal economy is as important as the national economy.

For the last question, when the egocentric evaluation is fixed, the change in the sociotropic evaluation always produces a statistical difference in the probability for incumbent voting except for one case: when a voter's sociotropic evaluation changes from "same" to "better" and the egocentric evaluation is fixed as "worse." This also occurs due to the deviant probability of the "BW" category. In contrast, when the sociotropic evaluation is fixed, the change in the egocentric evaluation makes significant differences in the probability of incumbent voting only when the egocentric evaluation moves from "worse" to "better." These results indicate that both sociotropic and egocentric economic judgments affect an incumbent vote choice, but the former has a stronger effect than the latter.

The results of Table 7.2 show that there is a hierarchical order in the probability of an incumbent vote for the nine categories of a summary economic evaluation. This result makes it possible to use this nominal variable as an ordinal. Table 7.3 shows the results of logistic regression models for the 2007 presidential, the 2008 legislative, and the 2010 local elections in South Korea using the unidimensional measure of the voter's joint summary economic evaluation.

[Table 7.3 about here]

Table 7.3 demonstrates that the joint summary economic evaluation is consistently significant in all three Korean elections. In addition, when using the same control variables and sample size, R-squares for models using the unidimensional measure are almost identical to those models using the two traditional economic evaluation measurements.

Therefore, this unidimensional measure of a voter's economic evaluation can be used as an effective proxy to estimate economic voting in Korean elections.

7.4 Economic Voting with New Economic Evaluation Measurements in Taiwan

This section reexamines economic voting in the three Taiwanese presidential elections of 2004, 2008, and 2012. This analysis first estimates economic voting models with the two traditional, separate economic evaluation variables and four controls (party identification, ideology, education, and gender) in the 2004, 2008, and 2012 Taiwanese presidential elections.

[Table 7.4 about here]

Table 7.4 shows results of logistic regression models estimating the effects of sociotropic and egocentric economic evaluations on vote choice in the Taiwanese presidential elections in 2004, 2008, and 2012. The dependent variable is whether to vote for the incumbent party or other parties, and non-voters are excluded. On one hand, Table 7.4 shows that sociotropic economic evaluations are consistently significant in all three elections. However, the sign of the coefficient for the sociotropic evaluations in the 2008 election is negative, which means that as a voter's economic evaluation about the national economy moves to better from the same or worse, the individual is more likely to vote against the incumbent party. This result is the total opposite of the expectation of economic voting theory and might be caused by a combination of several elements. As mentioned above, sample distribution for the 2008 election data is highly skewed. There are only a

few respondents who expressed confidence in the national economy. Also, as Lacy and Niou (2012) point out, the economy was not the major issue in the 2008 election.

Finally, the incumbent president (Chen Shui-bian of the DPP) did not run for reelection due to term limit. The extant studies (Nadeau and Lewis-Beck 2001; Campbell, Dettrey, and Yin 2010) find that economic voting is mitigated or unobserved when the incumbent is not running. Therefore, the result for the 2008 presidential election appears to be an abnormal phenomenon. Except for the 2008 election, a voter's sociotropic evaluation had a positive and significant effect on vote choice in recent Taiwanese presidential elections. On the other hand, a voter's egocentric evaluation was not significant at all in the three presidential elections.

On the basis of this finding, it is expected that the probability of incumbent voting for the nine categories of a voter's economic evaluation follows the sequence of the sociotropic priority model. Table 7.5 illustrates the result of the economic voting model using the nominal variable.

[Table 7.5 about here]

Table 7.5 shows that there is no expected hierarchical order of the nine categories in the probability of an incumbent vote. The probability does not follow either of the two expectations proposed based PH theory in Chapter 4. In addition, comparing the reference category, "SS," only three categories, "BB," "BS," and "WS," have a statistically different probability of incumbent voting. This result implies that Taiwanese voters do not use the two economic evaluations for vote choice in the systematic way that PH theory argues.

Thus, it also suggests that the new joint summary economic evaluation variable cannot be applied to estimating economic voting in Taiwanese presidential elections.

This result might be distorted by the result of the 2008 presidential election because it occupies almost one third of total sample size. The result of economic voting in the 2008 presidential election shows an idiosyncratic phenomenon. Thus the result for 2008 muddles the overall result when survey data are aggregated. As Table 7.2 illustrates, the coefficients of the two economic evaluation variables have negative signs, which means that as a voter's economic evaluation changes from worse to better, the probability of an incumbent vote decreases. This is a totally opposite result from what economic voting theory generally expects. Except for the 2008 presidential election, there has been no case like this phenomenon within the literature of economic voting in Taiwanese elections. As already mentioned, the bizarre result of the 2008 presidential election might be caused by a highly skewed sample distribution in economic evaluations, the lack of voters' attention to the economy in that year, and/or no incumbent president running. Therefore, except for the 2008 presidential election, this dissertation reexamines economic voting in Taiwanese presidential elections using the nine-category nominal variable of economic evaluation.

[Table 7.6 and Figure 7.2 about here]

Table 7.6 and Figure 7.2 demonstrate the estimates of relative economic evaluations on an incumbent vote choice in the 2004 and the 2012 Taiwanese presidential elections. This result of the model in Table 7.6 does not perfectly correspond to the expectation of this dissertation. Only four categories, "BB," "BS," "WS," and "WW," show a statistically meaningful difference in the probability of incumbent voting compared with the reference

category, and the “WS” category deviates from the expectation. Nevertheless, this result seems to support the expectation of this dissertation. Overall, except for the “WS” category, the probability of incumbent voting for the nine nominal categories of economic evaluations follows the sequence expected in Chapter 4. When assuming that a voter’s sociotropic evaluation outweighs his or her egocentric evaluation, it is expected that the probability of an incumbent vote for the nine categories follows the sequence of “BB,” “BS,” “BW,” “SB,” “SS,” “SW,” “WB,” “WS,” and “WW.” The result of Table 7.6 follows this sequence in terms of the probability of incumbent voting except for the change of order between “WS” and “WW.” The magnitudes of predicted probability for nine categories of a voter’s summary economic evaluation are “BB” (90%), “BS” (86.5%), “BW” (80.6%), “SB” (78.9%), “SS” (78.3%), “SW” (76.6%), “WB” (66.1%), “WS” (57.2%), and “WW” (59.3%).

Furthermore, this result reveals additional information about the economic voters in Taiwan. First, for the question whether there is a synergistic effect of the two economic evaluations on vote choice in Taiwan, the result of Table 7.6 shows such an effect appears for those who have positive economic evaluations, whereas there is no clear synergy for those who have negative economic evaluations. A voter who has positive evaluations of both economies has a higher probability of an incumbent vote than a voter who has only one positive evaluation of the two economies. In contrast, a voter who has negative judgments of both economies has a higher probability of incumbent vote only when compared with a voter who has one negative evaluation and one positive evaluation.

Second, in terms of whether voters choose sociotropic or egocentric evaluations when they have conflict evaluations, the predicted probability of incumbent vote for the

“BW” category (80.6%) is higher than that for the “WB” category (66.1%). This means that a voter who has a positive sociotropic economic evaluation and a negative egocentric evaluation is more likely than a voter who has the reverse to vote for the incumbent party’s presidential candidate. Thus, this result shows that Taiwanese voters are more likely rely on a sociotropic evaluation than an egocentric one when having conflicting views of the national and personal economic conditions.

Last, this chapter examines how an economic evaluation affects an incumbent vote choice when the other evaluation is fixed. For sociotropic evaluations, changing from one category to another always makes a statistical difference in the probability of voting for incumbents, no matter what the egocentric evaluation. For egocentric evaluations, the change between “worse” and “better” only makes a statistically significant difference in the probability of an incumbent vote when the sociotropic evaluation is fixed, no matter what sociotropic evaluation is. This result shows that a voter’s sociotropic evaluation always has an independent impact on vote choice no matter what the voter’s egocentric evaluation is. In contrast, a voter’s egocentric evaluation has an independent impact on vote choice when it changes from “worse” to “better.” These results show that the both sociotropic and egocentric economic judgments independently affect an incumbent vote choice, but a sociotropic evaluation has a stronger effect than an egocentric one on the probability of incumbent voting.

From the results of Table 7.6, this research treats the nominal measure of a voter’s joint summary economic evaluation as a unidimensional ordinal variable to estimate economic voting in Taiwan. Table 7.7 illustrates the results of economic voting in the 2004,

2008, and 2012 Taiwanese presidential elections by using the unidimensional measure of a voter's joint summary economic evaluation.

[Table 7.7 about here]

As Table 7.7 shows, the new unidimensional measure of economic evaluations has a statistically significant and substantive effect on the probability of voting for the incumbent in all three presidential elections. Like the results of Table 7.2, the sign of the economic evaluation variable in the 2008 presidential election presents as negative. For the other two presidential elections of 2004 and 2012, the coefficient of the economic evaluation variable has a positive sign. In addition, when using the same control variables and sample size, R-squares for models using the new unidimensional measure are almost identical to those models using the two traditional economic evaluation measurements. Therefore, this unidimensional measure of economic evaluations can be used to estimate economic voting in Taiwanese presidential elections instead of the two traditional separate measures of economic evaluations.

7.5 Conclusion

This chapter examines economic voting in new democracies with the nine-category nominal and the unidimensional ordinal measures of a voter's joint summary economic evaluation by analyzing recent elections of South Korea and Taiwan. For South Korea, the results from the 2007 presidential, the 2008 legislative, and the 2010 local elections provide evidence that economic voting occurs in recent South Korean elections. Unlike the early economic voting studies for South Korea, the economic voting models show significant coefficients and expected signs for economic evaluation variables whether using the two

traditional separate economic evaluation measures or using the unidimensional measure in models. There may be two reasons for the consistent findings of economic voting in the recent Korean elections. As Choi (2007), Duch (2001), and Tucker (2006) argue, economic voting was weaker in South Korea because voters may not be familiar with using elections as sanctioning devices. In recent elections, however, Korean voters may have become accustomed to using elections as a reward or punish tool for government performance. In addition, after the 2008 economic crisis, the salience of economic issues increased in South Korea. In terms of the importance of sociotropic and egocentric evaluations, the results show that Korean voters use their national and personal economic evaluations together but with a priority on the sociotropic evaluation for vote choice. For Korean voters, sociotropic economic evaluation outweighs egocentric, but they also consider their personal economic evaluations to supplement their party preference. Thus, except for one of the nine categories, the sequence of the probability in an incumbent vote for the nine nominal categories follows the expectation of this dissertation based on PH theory.

For Taiwan, the 2004, 2008, and 2012 presidential elections are analyzed. Although the 2008 presidential election shows an idiosyncratic result, the economic voting models from the 2004 and the 2012 presidential elections show the expected sign and statistically significant coefficients of economic evaluation variables no matter which economic evaluation variables are used, the two traditional separate economic evaluation measures or the unidimensional measure. Unlike conventional wisdom about Taiwanese economic voting, the empirical analysis of this dissertation provides evidence that economic conditions are important factors to Taiwanese voters for their vote choice in presidential elections. The reasons for this economic voting in Taiwan might be similar to those of the

South Korean case. For the impacts of sociotropic and egocentric economic evaluations on vote choice, it seems that Taiwanese economic voters are more sociotropic than egocentric, but their egocentric evaluations also have limited impacts on vote choice. The result of this model shows that the sequence of the probability in an incumbent vote for the nine nominal categories matches the expectation of this dissertation based on PH theory.

The results of South Korea and Taiwan imply that economic voting is a universal phenomenon across democracies. Economic voting may be weak in the early stage of democracy. As citizens become familiar with democratic elections, however, economic voting becomes a general electoral behavior in democratic countries. The result of this chapter also suggests that one can use the nine-category nominal variable as a unidimensional ordinal measure to estimate economic voting in new democracies. As mentioned, when replacing the two traditional, separate economic evaluation variables, sociotropic and egocentric, with the unidimensional ordinal measure, the signs and significance levels of logit coefficients for economic evaluation variables in economic voting models do not change with the same sample size and control variables in South Korea and Taiwan cases. Moreover, R-squares for models using the new unidimensional measure are almost the same as those for models using the two traditional economic evaluation measurements. Therefore, this new measure can be used with no fear of losing statistical power to predict the dependent variable.

The results of this chapter shows that a new unidimensional measure of economic voting travels outside the advanced democracies, from established to emerging democracies, and from Anglo-Saxon to East Asian democracies.

Table 7.1. Sociotropic and Egocentric Evaluations on Vote Choice in South Korea: The 2007 Presidential, the 2008 Legislative, and the 2010 Local Elections

	2007	2008	2010
Sociotropic Evaluation	.389*** (.086)	.388*** (.139)	.401*** (.135)
Egocentric Evaluation	.261*** (.097)	-.106 (.123)	.201 (.163)
PID	.726*** (.074)	1.896*** (.138)	1.567*** (.130)
Male	.103 (.117)	-.438*** (.171)	-.268 (.197)
College	-.237** (.120)	.087 (.180)	-.246 (.193)
Ideology	.089*** (.029)	.002 (.044)	.176*** (.047)
Constant	-3.813*** (.261)	-5.339*** (.495)	-5.679*** (.501)
n	1908	965	767
Pseudo R²	.088	.301	.309

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses. Sociotropic and egocentric evaluations are coded as interval variables on a three-point scale where 3=better, 2=same, and 1=worse. ***P<0.01, **P<0.05, and *P<0.1.

Table 7.2. Nine Economic Evaluation Categories on Vote Choice in South Korea: The 2007 Presidential, the 2008 Legislative, and the 2010 Local Elections

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	.630*** (.199)	.425*** (.045)	.143*** (.048)
Better	Same	.446*** (.165)	.381*** (.035)	.098*** (.038)
Better	Worse	-.257 (.364)	.234*** (.064)	-.049 (.065)
Same	Better	.206 (.162)	.326*** (.032)	.044 (.352)
Same	Worse	-.026 (.164)	.277*** (.029)	-.005 (.033)
Worse	Better	-.219 (.209)	.240*** (.036)	-.042 (.039)
Worse	Same	-.386*** (.123)	.211*** (.016)	-.071*** (.023)
Worse	Worse	-.436*** (.130)	.203*** (.017)	-.080*** (.023)
	PID	1.169*** (.054)		
	Male	-.118 (.085)		
	College	-.206** (.087)		
	Ideology	.099*** (.021)		
	2008	-.336*** (.108)		
	2010	-.050 (.111)		
	Constant	-3.248*** (.165)		
n			3640	
Pseudo R²			.193	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .283*** (.016). ***P<0.01, **P<0.05, and *P<0.1

Table 7.3. Interval Measure of Economic Evaluation on Incumbent Vote in South Korea: The 2007 Presidential, the 2008 Legislative, and the 2010 Local Elections

	2007	2008	2010
Economic Evaluation	.148*** (.025)	.082** (.035)	.141*** (.040)
PID	.725*** (.074)	1.878*** (.137)	1.568*** (.130)
Male	.081 (.115)	-.413** (.170)	-.274 (.196)
College	-.220* (.119)	.067 (.179)	-.244 (.193)
Ideology	.089*** (.029)	.005 (.044)	.177*** (.047)
Constant	-3.242*** (.203)	-5.219*** (.444)	-5.192 (.421)
n	1908	965	767
Pseudo R²	.087	.299	.309

Note: Logistic regression with DV: vote for incumbent or not. Standard errors in parentheses. ***p<0.01, **p<0.05, and *p<0.10

Table 7.4. Sociotropic and Egocentric Evaluations on Vote Choice: Taiwan Presidential Elections in 2004, 2008, and 2012

	2004	2008	2012
Sociotropic Evaluation	.645*** (.157)	-.597** (.217)	.868*** (.115)
Egocentric Evaluation	.121 (.219)	-.356 (.203)	.172 (.140)
PID	5.959*** (1.124)	4.432*** (.350)	4.476*** (.364)
Male	-.296 (.219)	.224 (.209)	-.243 (.146)
College	-.633** (.231)	-.394 (.214)	-.289 (.156)
Ideology	-.081 (.062)	-.275*** (.064)	
Constant	-1.331* (.547)	-1.391** (.500)	-2.101*** (.268)
n	608	824	1364
Pseudo R²	.390	.420	.391

Note: Logistic regression with DV: whether vote for incumbent or not. Standard errors in parentheses. Sociotropic and egocentric evaluations are coded as interval variables on a three-point scale where 3=better, 2=same, and 1=worse. ***P<0.01, **P<0.05, and *P<0.1.

Table 7.5. Nine Economic Evaluation Categories on Vote Choice: Taiwan Presidential Elections in 2004, 2008, and 2012

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	.901*** (.245)	.819*** (.035)	.172*** (.039)
Better	Same	.710*** (.157)	.789*** (.024)	.141*** (.029)
Better	Worse	-.019 (.384)	.643*** (.087)	-.004 (.088)
Same	Better	-.009 (.301)	.645*** (.068)	-.002 (.069)
Same	Worse	-.196 (.179)	.601*** (.041)	-.046 (.042)
Worse	Better	-.269 (.380)	.584*** (.091)	-.064 (.092)
Worse	Same	-.529*** (.124)	.519*** (.027)	-.128*** (.030)
Worse	Worse	-.170 (.114)	.606*** (.023)	-.040 (.027)
	PID	4.731*** (.207)		
	Male	-.081 (.084)		
	College	-.473** (.092)		
	2008	-.801*** (.108)		
	2012	.012 (.101)		
	Constant	-.319*** (.110)		
n			4001	
Pseudo R²			.377	

Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .647*** (.022). ***P<0.01, **P<0.05, and *P<0.1

**Table 7.6. Nine Economic Evaluation Categories on Vote Choice: Taiwan
Presidential Elections in 2004 and 2012 (When the Incumbent President Is Running)**

Variables		Logit Coefficients	Predicted Probability	Marginal Effects
Sociotropic Evaluation	Egocentric Evaluation			
Better	Better	.919*** (.268)	.900*** (.024)	.118*** (.028)
Better	Same	.575*** (.170)	.865*** (.020)	.082*** (.023)
Better	Worse	.141 (.420)	.806*** (.066)	.023 (.067)
Same	Better	.035 (.333)	.789*** (.055)	.006 (.056)
Same	Worse	-.097 (.208)	.766*** (.037)	-.017 (.037)
Worse	Better	-.614 (.441)	.661*** (.099)	-.122 (.098)
Worse	Same	-.993*** (.152)	.572*** (.037)	-.211*** (.034)
Worse	Worse	-.907*** (.147)	.593*** (.035)	-.190*** (.032)
	PID	4.722*** (.308)		
	Male	-.183* (.102)		
	College	-.592 (.112)		
	2012	.075 (.104)		
	Constant	.003 (.123)		
n			2627	
Pseudo R²			.365	

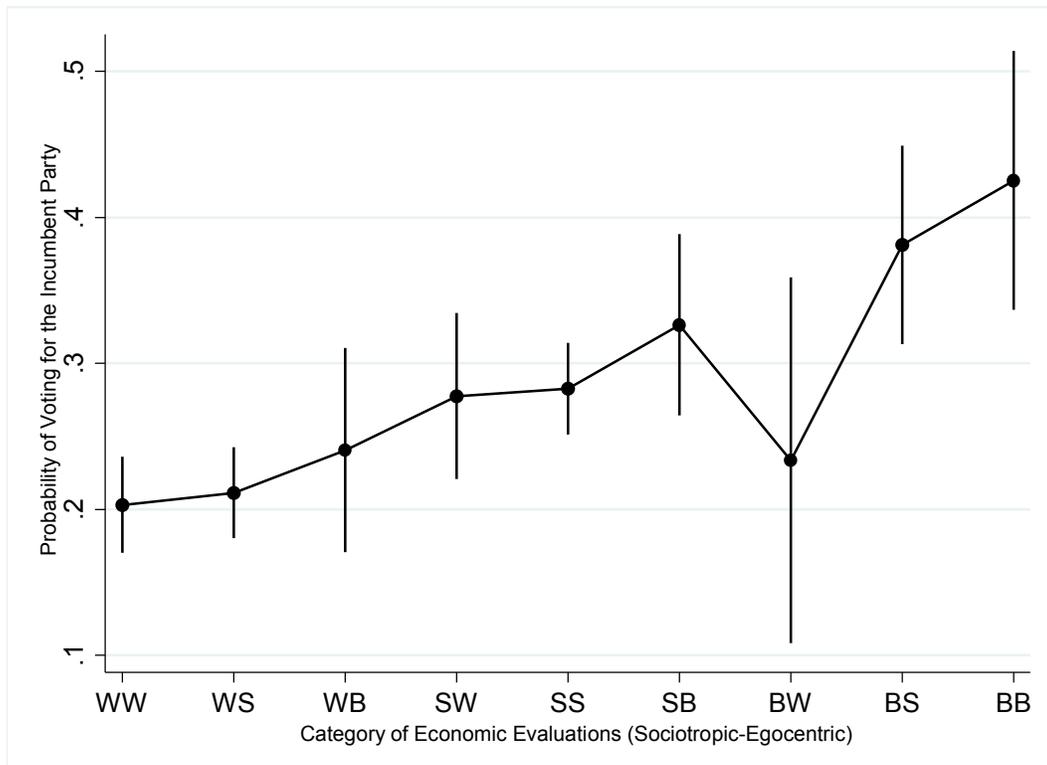
Note: Logistic regression with DV: whether vote for incumbent (1) or not (0). Reference category is “same—same” category. Standard errors in parentheses. All predictors at their mean value for predicted probability. The predicted probability for the reference category is .783*** (.022). ***P<0.01, **P<0.05, and *P<0.1

Table 7.7. Interval Measure of Economic Evaluation on Incumbent Vote: Taiwan Presidential Elections in 2004, 2008, and 2012

	2004	2008	2012
Economic Evaluation	.203*** (.042)	-.226*** (.060)	.274*** (.032)
PID	5.951*** (1.123)	4.414*** (.348)	4.474*** (.364)
Male	-.295 (.219)	.222 (.209)	-.248* (.146)
College	-.643*** (.229)	-.416** (.212)	-.301* (.155)
Ideology	-.079 (.062)	-.276*** (.064)	
Constant	-.817* (.423)	.551 (.402)	-1.376*** (.159)
n	608	824	1364
Pseudo R²	.390	.419	.391

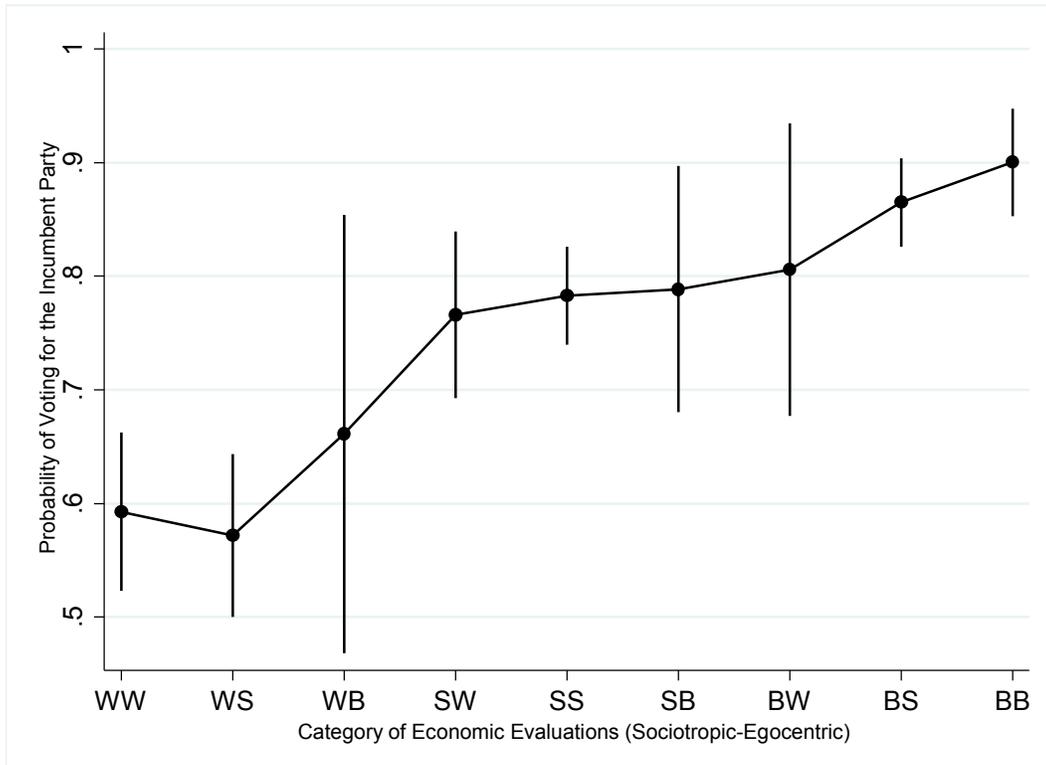
Note: Logistic regression with DV: vote for incumbent or not. Standard errors in parentheses. ***p<0.01, **p<0.05, and *p<0.10

Figure 7.1. Effects of Economic Evaluations on Incumbent Vote Probability in South Korean Elections, Nine Categories: Adjusted Predictions with 95% Confidence Intervals



Retrospective economic evaluations order is sociotropic first and egocentric second.
B=Better, S=Same, W=Worse.

Figure 7.2. Effects of Economic Evaluations on Incumbent Vote Probability in Taiwan Presidential Elections, Nine Categories: Adjusted Predictions with 95% Confidence Intervals



Appendix 7-A. Nine Economic Evaluation Categories and Sample Size: The 2007 Presidential, the 2008 Legislative, and the 2010 Local Elections in South Korea

		Egocentric Economic Evaluations			Total
		Better	Same	Worse	
Sociotropic Economic Evaluations	Better	4.1% (245)	6.8% (410)	1.6% (99)	12.5% (754)
	Same	7.3% (442)	25.9% (1568)	7.2% (437)	40.5% (2447)
	Worse	4.1% (248)	23.8% (1437)	19.2% (1160)	47.0% (2845)
Total		15.46% (935)	56.5% (3415)	28.1% (1696)	100% (6046)

Note: Numbers in parentheses are total sample for each category. Yellow highlight denotes a category constituting less than 5% of total observations. If response for either sociotropic or egocentric evaluation questions is missing, the observation is excluded.

Chapter 8

Conclusion

This project began with casting doubt on the traditional interpretation about economic voting. That perspective posits that voters use sociotropic and egocentric evaluations separately and independent of each other to assess the incumbent. Previous research provides a solid estimation of sociotropic and egocentric economic voting but has limitations because it fails to provide information about the ways in which sociotropic and egocentric economic evaluations interactively affect opinion and vote choice. Furthermore, it overlooks the possibility that voters jointly use two economic dimensions by combining them into a single economic evaluation. The American voting behavior literature assumes that voters use unidimensional scales to evaluate political parties and presidential candidates. For example, variables such as ideology, party identification, and a feeling thermometer toward political parties or candidates are treated as unidimensional interval variables even though those evaluations comprise several different aspects. This is because, theoretically, voters tend to narrow down multiple dimensions into one when making an assessment (Sartori 1976), and, empirically, those variables have strong orders in terms of political party preference. In this sense, this dissertation posits that voters use a single-dimension economic evaluation constructed of sociotropic and egocentric evaluations. That is, voters effectively combine the two economic evaluations into a single dimension in a systematic way. On the basis of this notion, this dissertation proposes an improved interval measure of economic evaluation to capture a voter's economic assessment in a single dimension and to provide a comparable economic voting measurement across elections.

To construct a new unidimensional measure, this research borrows the idea of priority heuristic (PH) theory, which provides a convincing prediction of how voters use two different criteria of economic evaluation by using priority heuristics. PH theory argues that decision makers place alternatives along a single dimension by primarily using the first-priority criterion and then using the next priority to supplement the first. In the same vein, voters may make their decisions primarily on a dimension they perceive as more salient but also use another dimension as a supplemental source. In the case of retrospective economic voting, voters may place more weight on one economic evaluation than the other. Then, the voters may judge the incumbent mainly according to the economic evaluation they weigh more and use the other to supplement the decision. According to this theoretical expectation, this dissertation proposes two possible unidimensional scales of economic evaluations: the sociotropic priority scale and the egocentric priority scale. If voters are sociotropic, the former should be used. If voters are egocentric, the latter is more appropriate for estimation of economic voting. According to empirical examinations of this research, all voters across the five countries appear to be more sociotropic than egocentric.

By treating this ordinal variable as nominal in a logistic regression model to predict the probability of an incumbent vote, this dissertation tests its theoretical expectation that voters use the two economic evaluations in a combined way on the basis of priority heuristics. If the nominal categories follow a pattern consistent with expectations of probability for incumbent voting, the analysis supports the theoretical expectation.

This theoretical expectation is tested with data from the elections of five democratic countries. By analyzing US presidential elections from 1980 to 2012, Chapter 5 finds that American voters jointly use sociotropic and egocentric economic evaluations for making

vote choices. American voters rely mainly on sociotropic judgments but use egocentric assessment as a complementary criterion. Therefore, the probability of an incumbent vote for nine nominal categories follows an order of a sociotropic priority scale. This confirms the theoretical expectation on the basis of priority heuristics. When estimating economic voting models using the unidimensional scale of economic evaluations in US presidential elections, the inference of the result is almost the same as that of models using traditional measurements.

Chapter 6 extends this idea to elections in two other institutionalized democracies, Britain and Canada. Besides the United States, Britain and Canada are two of the most studied countries in the literature of economic voting. Though Britain and Canada have the same electoral system, a single member district plurality, and political culture, Anglo-Saxon, as the United States, the two countries differ from the United States because they maintain parliamentary systems. Thus, they are good comparable examples to test whether this new economic evaluation measure can be applied to countries other than the United States. In both countries, voters care more about the national economy than their own financial situations when making a party choice. On one hand, the result finds that British voters jointly use sociotropic and egocentric economic evaluations on the basis of prioritizing sociotropic evaluations for vote choice in recent British general elections. The probability of an incumbent vote choice for British voters corresponds to the expected sequence of the sociotropic priority scale, which confirms the theoretical expectation. This measure also works well when it replaces the traditional measures in economic voting models. The Canadian case does not perfectly follow the theoretical expectation. Seven of the nine categories of a voter's summary economic evaluation follow the sequence of the

expectation of this dissertation in terms of the probability of an incumbent vote choice. Two deviant categories have unexpected results; however, they have a very small sample size (less than 5% of the total sample). The unexpected results may occur due to this sample-size issue rather than actual voting behavior. Comparing the results of the economic voting model using the unidimensional measure and those of traditional models using the two separate economic evaluation variables, the signs and significance levels of logit coefficients of economic evaluation variables and R-squares of models are almost identical in Canadian case. The new unidimensional measure of economic voting travels outside the US contexts, from presidential to parliamentary systems, and from two-party to multi-party systems.

Chapter 7 examines whether the new unidimensional measure of economic evaluations can be applied for elections in new democratic countries. For this examination, it analyzes the 2007 presidential, the 2008 legislative, and the 2010 local elections in South Korea and the 2004, 2008, and 2010 presidential elections in Taiwan. These two new democracies share similar political and electoral systems and political and cultural backgrounds. First, both countries have a SMDP electoral system and a presidential system. Second, the two countries experienced similar democratic transitions in the late 1980s. Last, foreign policy issues are highly salient because they are split countries. As the results of Chapter 7 present, a voter's economic evaluations are highly correlated with vote choice, and voters are more sociotropic than egocentric in both South Korea and Taiwan. What is more, the results show that Korean and Taiwanese voters jointly use sociotropic and egocentric evaluations to make vote decisions according to the sociotropic priority scale. When replacing the two traditional, separate economic evaluation variables, sociotropic

and egocentric, with the unidimensional ordinal measure, the signs and significance levels of logit coefficients for economic evaluation variables and Pseudo R-squares in economic voting models do not substantively change in the cases of South Korean and Taiwan. This new retrospective economic scale works well in economic voting models for new democracies, compared with the two separate and independent measures of economic evaluations.

In short, these empirical results show that the new unidimensional index of retrospective economic evaluation can be applied consistently across various contexts. However, it remains an open question whether all democratic polities prioritize the national or regional economy over the local or personal economic situation. The extant studies of economic voting found that economic voters are more sociotropic than egocentric across countries. The findings of this dissertation confirm this conventional wisdom. However, the results of this research provide evidence that voters use a combined unidimensional measure of economic evaluations constructed according to sociotropic priority. This finding implies that voters also care about their own financial situation and consider it when assess the incumbent's economic performance. This finding applies not only to advanced democracies, but also to new democracies.

This research contributes to our understanding of retrospective economic voting behavior. First, forms of retrospective economic voting are identical across democracies no matter which political systems or political culture they have. This dissertation shows that the two different aspects of economic conditions are jointly used by voters with prioritizing sociotropic over egocentric evaluations. The probability of incumbent voting for the nine categories of economic evaluations follows the expected sequence of a

sociotropic priority scale across the five countries that have different political systems and political cultures.

Second, voters consider two economic evaluations together rather than entirely relying on one of two economic evaluations when assessing the incumbent's economic performance. That is, both sociotropic and egocentric evaluations simultaneously affect vote choice. Therefore, if researchers use only one of the two economic evaluations as the independent variable to estimate the impact of economic evaluation on vote choice, the result may be plagued by the omitted variable bias. Under the assumption that sociotropic economic evaluations solely matter, some studies or electoral surveys such as the Comparative Studies of Electoral Systems (CSES) ask only a voter's sociotropic evaluation. If a voter consider both sociotropic and egocentric economic evaluations to make a decision, economic voting models should include both variables. Hence, a consensus regarding survey items on economic voting across election studies would be helpful to solve this problem.

Third, this dissertation confirms the idea that voters tend to narrow down multiple dimensions into a single scale to make a choice. The result of this dissertation provides evidence supporting that a voting decision is determined by a single dimension. This research, however, not only confirms the existing notion but also finds new information about how voters merge several different dimensions into one. The single evaluation scale is highly weighted by a salient dimension, but voters use the other dimensions as a complementary source of information rather than simply abandoning them. Here, the focus is on measurement of a retrospective evaluation, but the application fits similar contexts such as a scale for prospective economic evaluation or an ideology scale.

However, unlike scales for ideology or party identification, this retrospective evaluation index comes with a caution. In a given election, particularly if national economic performance is strong or weak, voters share economic evaluations. The number of survey respondents within a category may be too small. Few respondents, for instance, thought the national economy was doing well at the time of the 2008 US or the 2008 Taiwanese presidential elections. Initially, it may appear that an economic evaluation scale may be inappropriate, but this may be due primarily to the small number of respondents within a category or two. That is, the majority of voters may hold consensus views of economic performance. Thus, the interval measure works well generally, but in a single election it may be influenced by sample size.

Retrospective economic evaluations may be less of a policy issue than a valence dimension. Within the notion of non-policy or valence issues are affective candidate characteristics such as honesty or competence as well as general assessments of the direction of the country (Stokes 1963; Endersby 1994). Perceptions regarding national and local economies, such as war and social conditions, fall within the latter. Few voters, I hope, *prefer* war, economic dislocation, or social upheaval as a general policy. But voters' assessments of these broad conditions influence how they evaluate incumbents. Related to the sample size within categories, the electorate may form opinion clusters, or a consensus, regarding valence issues. As expected for a valence issue, the strength of economic evaluations in American elections relates to whether the incumbent president appears on the ballot.

Throughout recent elections in five countries, voters used sociotropic and egocentric economic assessments jointly for making vote decisions. Voters depend

primarily on sociotropic evaluations as a component of vote choice. However, they incorporate an egocentric perspective as a complementary criterion. This is a universal voting behavior of economic voters examined in this dissertation. This confirms the theoretical expectation on the basis of priority heuristics. A unidimensional, interval scale for economic evaluations can substitute for the traditional measurements, similar to scales for partisanship or ideology. This new retrospective economic scale works well, compared to the two separate and independent measures of economic evaluations; it is empirically equivalent and theoretically stronger.

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