AN ECONOMIC THEORY OF
POLITICAL COMMUNICATION EFFECTS:
HOW THE ECONOMY CONDITIONS POLITICAL LEARNING

DISSERTATION

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ABSTRACT

Politics and the economy are inextricably linked. This study argues that the economy has been an under-developed contextual variable capable of coordinating the process and consequences of political communication. An economic theory of political communication effects is proposed to capture the dynamic ecology of citizens' political involvement. In particular, economic conditions are theorized to impact voters' news media use and political learning through a series of mechanisms.

The study analyzed fifty years of ANES (*American National Election Studies*) data through using multilevel modeling techniques. Results show that a) both the "bad news-prone" media and economically-rational voters were reactive to serious economic declines; b) based on subjective value judgments, political information from the news media was perceived to carry different levels of gratifications and utilities under different economic conditions; and c) voters with different levels of learning motivation exhibited varying degrees of learning effects through seeking and absorbing campaign information from the news media.

The contribution of this study lies in its focus on one societal level variable, the economy to examine political communication effects. Given that informed participation strikes at the very heart of representative democracy, it is important to

understand the underlying processes and mechanisms of political learning from both micro and macro perspectives. The current study provides solid evidence to support the arguments from existing literature on the role of motivation, media use, and information environment in learning about politics. In addition, a causal flow is established from the presence of an economic crisis, to learning motivation, to news exposure, and finally to knowledge acquisition.

It is maintained that the study of political communication can benefit from considering macro economic variables, which can bring more explanatory power to models of political communication effects, test the degree of economic rationality of the electorate in response to variegated social settings, and build a political communication effects theory that addresses both micro- and macro- factors.

Dedicated to my parents

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CHAPTER 1

INTRODUCTION

Political communication research from its very inception has relied heavily on an individual-behavioristic approach (Gitlin, 1978; Pan & McLeod, 1991). The study of citizens' political knowledge acquisition from the news media well typifies such a theoretical and methodological orientation. With the major exception of the Minnesota group's work (Tichenor, Donohue, & Olien, 1970), few studies have gone beyond investigating the impacts of individual-focused factors such as socio-economic status (Fredin, Monnett, & Kosicki, 1994), news media use (Chaffee, Zhao, & Leshner, 1994; Chaffee, & Martinelli, 1995; Eveland & Scheufele, 2000; Weaver & Drew, 1995; 2001), cognitive elaboration (Eveland, 2001; 2002), and learning motivation (Ettema & Kline, 1977).

To the extent that societal-level factors evade scholars' attention, underspecified theoretical models frequently give rise to conflicting findings, which deter media effects scholars from seeing a fuller picture of media effects. For instance, findings from Drew and Weaver's research series on political learning during U.S. presidential elections have not been highly consistent: in some years, news exposure variables were robust and significant predictors of political knowledge but in other years, the effects failed to materialize (e.g., Drew & Weaver, 1991; 1998; 2004;

Weaver & Drew, 1993; 1995; 2001).

Such contradictory study results might suggest the potential of contextual effects at work (Downs & Rocke, 1981; Eveland & Dylko, 2006; Eveland & Liu, 2005). Interest in interaction effects propels many researchers to attend to contingent effects. In regards to the study of citizen's political information holding, there have been an increasing number of studies aimed at discovering the moderators which condition the relationship between news use and one's level of political knowledge. Some of the prime examples are socio-economic status (e.g., Eveland & Scheufele, 2000; Kwak, 1999; Tichenor et al., 1970), need for cognition (Liu & Eveland, 2005), community boundedness (Rucinski, 2004), and community issue conflict (Gaziano, 1984; Tichenor, Donohue, Olien, 1980). Nevertheless, the moderator-seeking endeavors do not proceed too far, not even beyond community level variables.

Upholding the notion that central to understanding the processes and effects of political communication is developing theoretical frameworks capable of connecting micro-individual actions to macro-social functioning (Pan & McLeod, 1991; Ritchie & Price, 1991), this study proposes an economic theory of political learning which places both citizens and the news media functions in a broader political economy context, wedding economic conditions to the study of media effects. Through analyzing fifty years of election surveys from ANES, I argue that during an election, economic conditions can function as both a predictor of citizens' political knowledge, and a qualifier of the relationship between news media exposure and political knowledge. Motivation and opportunity to learn are the two intervening factors facilitated by the use of news media.

An informed electorate sustains a vital democracy (Delli Carpini & Keeter, 1996). Research on political knowledge and news use can inform scholars about the

underlying mechanisms of citizens' political learning. However, too many studies focus on examining cross-sectional data from a single election, ignoring the fluctuation of political knowledge levels among the public across time. The current study will employ historical data to show how macro-societal factors can condition political communication effects.

The dissertation study proceeds as follows. Chapter II and Chapter III clarify the main concepts this study is going to address: political knowledge and news media use. In each case, I will elaborate on issues related to their conceptualization and provide operationalizations the study will use. Chapter IV reviews the major theoretical linkages between news use and political knowledge, with a conclusion that existing studies on news use and political knowledge have been ignoring relationships located at the societal level.

Chapter V contains most of the major theoretical arguments of this study. First, a brief discussion of the pivotal role of studying social context in communication research will be presented. After a review of the existing work on contextual effects of political learning, I introduce economic conditions as an overlooked contextual variable capable of coordinating both the process and consequences of political communication. By taking recourse to rational choice theory (Downs, 1957) and other related studies, I then detail various types of relationships within the proposed theoretical model. Specific hypotheses will be outlined at the end of Chapter V. Chapter VI discusses the data, variable measurements, and statistical analysis strategy this study uses. Results of the study will be presented in Chapter VII and finally, discussions of the results and conclusions can be found in Chapter VIII.

CHAPTER 2

POLITICAL KNOWLEDGE

A large stream of literature can be considered relevant to the study of political knowledge, and different terms have been employed by researchers: political knowledge (Delli Carpini & Keeter, 1996; Price & Zaller, 1993), political sophistication (Converse, 1964; Luskin, 1987); political thinking (Neuman, 1981); and political expertise (Fiske, Kinder, & Later, 1983; McGraw & Pinney, 1990). These are not identical concepts; however, the overlap among them is so heavy that discussing one without referring to another seems inadequate. Measurement of knowledge is fraught with problems (Gaziano, 1983). The conceptual diversity of political knowledge leads to inconsistent treatments across different studies with regard to quantifying how knowledgeable a citizen is: some are rather complex to calculate (e.g., Luskin's operationalization of political sophistication) but others are very straightforward (e.g., Delli Carpini and Keeter's general political knowledge).

2.1 Conceptualizing Political Knowledge

Factual Knowledge vs. Knowledge Structure. All definitions of political knowledge rest upon one form of democratic ideal or another. To the extent that the meaning of "political knowledge" highlights a particular or several cognitive characteristics that citizens are expected to possess, such expectations are not free of

normative assumptions. Some theorists expect a Jeffersonian democracy in which everyone is highly involved in national politics while other scholars advocate for a minimum democracy where political decision-making is delegated to political elites.

Under the influence of Barber's (1984) notion of "strong democracy," Delli Carpini and Keeter (1996) define political knowledge as "the range of factual information about politics that is stored in long-term memory." (p.10) Subsumed under this definition are three broad domains of political knowledge: the rules of the game, the substance of politics, and people and parties. In their perspective, knowledge about political institutions, issues, and players is a fundamental requirement of being a capable citizen.

An alternative approach emphasizes the organization of factual knowledge because an effective way of organizing information can help tie isolated facts together into substantive understanding. Converse (1964) argued that a meaningful political belief system plays an essential role in defining a politically competent individual. Knowledgeable and sophisticated citizens are more likely to be elites who take liberal or conservative standpoints consistently, while the mass is mostly innocent, holding unpredictable positions or even "non-attitudes" (Converse, 1970) toward social issues. Conover and Feldman (1984) found the schematic model (Fiske & Linville, 1980) a promising tool for studying political knowledge. They maintain that ideological principles are only one dimension of political beliefs and not everyone formulates their attitudes along ideological lines. Basic human philosophy, economic beliefs, racial beliefs, and social beliefs are some typical alternative categorization systems.

Since factual knowledge and cognitive organization systems are closely intertwined, Neuman (1981) proposed two fundamental dimensions of political thinking: conceptual differentiation and integration. Differentiation refers to the bits of

political information an individual holds in memory whereas conceptual integration is the organization of ideas by abstract cognitive structures. After a lengthy review of existing approaches to studying political sophistication, Luskin (1987) concluded that a measure that combines both active use (AU) and recognition and understanding (RU) is most appropriate for conceptualizing political sophistication. Likewise, Graber (2001) observes that, “scholars who measure political knowledge routinely ignore the importance of connotative thinking.” (p.22) In Graber’s view, denotative knowledge, the amount of political facts one holds, and connotative knowledge, the meanings and inferences behind the factual statements, are equally meaningful for an adequate treatment of political knowledge.

Daily Life Experience and Shortcuts. There has been much anecdotal and empirical evidence showing that the ideal of citizens having a large amount of stored political facts and an effective schema is going against the reality (Converse, 1964, 1990; Delli Carpini & Keeter, 1996). Consistent with this lamentable fact is a series of relaxed definitions of political knowledge whose roots can be traced back to Downs’ (1957) economic theory of democracy. Downs does not explicitly use the term political knowledge, but he considers an essential part of political decision-making is to find reliable delegates in order to reduce information costs for citizens. In this light, the capability of identifying the right experts to rely on is also a type of political wisdom.

Taking Downs’s idea a step further, Popkin (1991) expanded the boundary of political knowledge to citizens’ everyday life experiences. His by-product theory of information argues that the information people acquire to negotiate their daily lives (e.g., knowledge derived from making economic decisions) can be used for political decision making. In addition, Popkin suggested information shortcuts have a positive social function in a scenario of limited information. Echoing his view, Lupia and

McCubbins (1998) made the point that reasoned choice does not require citizens to have full information; instead, the knowledge to predict the consequences of their choice is enough for the proper function of democracy. Relying on advices from reliable experts is as important as understanding political issues, if not more important.

2.2 Operationalizations of Political Knowledge

The Content of Questions. As far as factual knowledge is concerned, most survey questions have not proceed beyond Delli Carpini and Keeter's (1996) categorization: the rules of the game, the substance of politics, and people and parties. Specific to elections, Atkin, Galloway, and Nayman (1976) argued that political knowledge in a campaign context should consist of accurate information about political actors, events, and issues. As far as operationalizations are concerned, some studies primarily focus on knowledge about candidates' issue stances (e.g., Chaffee & Martinelli, 1995; Drew & Weaver, 1991; 1998; 2004; Eveland, 2001; 2002; Moore, 1987; Tan, 1980; Weaver & Drew, 1993; 1995; 2001; Zhao & Bleske, 1998); some underscore knowledge about political figures (e.g., Guo & Moy, 1998; Volgy & Schwarz, 1980) and knowledge of presidential campaign endorsements (Holbert, 2005); others adopt a combination of issue and candidate questions (e.g., Chaffee, Zhao, & Leshner, 1994; Eveland & Thompson, 2006; Feldman & Price, 2008).

Beyond the context of an election campaign, current affairs questions constitute a large proportion of political knowledge measures. In Schudson's (1998) view, citizens should be knowledgeable about acute problems that appear in newspaper headlines. Corresponding to this normative expectation, surveillance facts questions (Delli Carpini & Keeter, 1991) are frequently seen in political communication studies. Some include questions about multiple issues in a study (Jerit, Barabas, & Bolsen, 2006; McLeod & Perse, 1994; McLeod et al., 1996) while others focus on a single topic such

as the Gulf War (Pan et al., 1994), the Contract with America (Stamm, John, & Martin, 1997), and the Social Security debate in 1998-1999 (Jerit & Barabas, 2006).

Awareness, Recognition, or Recall. In addition to “what to ask,” “how to ask” is a problem that haunts researchers in designing valid political knowledge questions. All existing operationalizations exist somewhere on a continuum from highly structured questions to open-ended interviews (for a rare exception, see Moy et al., 2004, in which they use a self-reported knowledge measure). Many early surveys defined knowledge in terms of “awareness” or “heard of” (Hyman & Sheatsley, 1947; Wade & Schramm, 1969) such as whether or not people heard of NAACP, Americans for Democratic Action, or John Birch Society. Asking “Yes/no” questions might be sufficient for news diffusion studies (Deutschmann & Danielson, 1960; Greenberg, 1964; Greenberg, Brinton, & Farr, 1965) but when it comes to studying political campaign effects, these questions seem to scratch the surface on most social issues. Separating the knowledgeable from ignorant citizens by “yes/no” questions sets the threshold too low.

Another type of question, which poses a greater challenge to respondents, is open-ended recall questions (Berkowitz & Pritchard, 1989; Pettey, 1988). Becker and Dunwoody (1982), for example, asked respondents to name candidates and talk about their characteristics. In a similar vein, Culbertson and Stempel (1986) counted the number of total arguments their respondents provided with regard to supporting and opposing an issue. Gaziano (1984) used a combination of awareness questions and in-depth information questions. She argued that her operationalization attended to both “knowledge of” and “knowledge about” (Park, 1967). At the other extreme, political scientists interested in political sophistication and ideological thinking prefer using lengthy open-ended interviews to capture the idea structures manifested in respondents’ answers (Neuman, 1981; Neuman, Just, & Crigler, 1992) and ordinary people’s

interpretations of news (Gamson, 1992).

The choice between closed-ended questions and open-ended interviews reflect researchers' conceptual stance on political knowledge. There are some methodological concerns, however. Mondak (2001), through analyzing the ANES data, prefers recognition over recall questions because recall questions discourage people from answering and guessing, and therefore the knowledge measurement is more likely to be contaminated by personality factors such as extroversion. Another problem with open-ended question is coding. To create a fair, reliable, and consistent scoring system requires detailed reading into a large variety of answers provided by respondents. Should "vice chairman" be considered correct in response to the question "what office does Dick Cheney hold?" Apparently, this hypothetical respondent knows something about Cheney. But, is he/she trying to make a joke here or he/she really can't recall the term president? A memo released by the ANES committee illustrates this issue well (Krosnick et al., 2008). In the memo, it is revealed that the coding criteria for the question "what job or political office does William Rehnquist now hold" varied across years and the interviewers have not been practicing their duty in accordance with the instructions they received.

Unidimensional or Multidimensional. The third problem with knowledge measurements speaks to the dimensionality of political knowledge. There are some debates over whether or not to distinguish among different topics of factual questions. Some theorists (Converse, 1964; Krosnick, 1990) suggest the existence of issue publics, who pay extra attention to special issues that concern different segments of the population. Seen in this light, people are not generalists, and therefore to measure political knowledge by using a unidimensional scale would be insufficient and less valid. However, empirical results are not highly consistent with the notion of

well-developed issue publics, at least in America (Delli Carpini & Keeter, 1996; Price & Zaller, 1993; Zaller, 1992). Instead, people who possess higher knowledge on one issue tend to know more about another issue.

This leads some political scientists (Delli Carpini & Keeter, 1993; Price & Zaller, 1993) to advocate the use of a general political knowledge scale, which includes several civics questions (e.g., whose responsibility is it to determine if a law is constitutional or not) plus some factual questions that are applicable over time (e.g., which party had the most members in the House of Representatives). It is true that general political knowledge is the best predictor of other aspects of political knowledge (Price & Zaller, 1993), but for political communication scholars, accepting their suggestions uncritically might incur problems.

General political knowledge consists largely of facts one might learn from a textbook. Once obtained, they do not need too much effort to maintain and update. In this sense, general political knowledge reflects more education than communication. The fact that general political knowledge measure is the best predictor of specific issue knowledge does not warrant downplaying other knowledge measurements. To make a metaphor, genetic factors may be the best predictor of one's longevity, but this does not prevent researchers from exploring the impact of a healthy diet or regular exercise. Moreover, general political knowledge is less likely to be influenced by news use. The news media seldom explicitly cover textbook-style facts. By contrast, domain specific knowledge requires one's motivation to learn.

Genova and Greenberg (1979), when studying the relationship between citizens' news interest and political information holding, treat specific items, names, dates, places, facts, and figures as factual knowledge, and understanding of how and why and the event's place in the broader framework of related phenomena as structural

knowledge. It is true that to have a well-organized body of knowledge means possessing substantive understanding of politics. Yet it is debatable that asking how and why questions can sufficiently evoke the expression of structural knowledge without a precise definition and measurement for it. On the other hand, arguing that answers to why and how questions are purely factual is ungrounded.

A bolder step taken by Eveland and his colleagues (Eveland, Cortese, Park & Dunwoody, 2004; Eveland, Marton, & Seo, 2004) draws on literature from educational psychology to study knowledge structure. By combining similarity ratings from psychology and formula from social network analysis, Eveland and others (Eveland et al., 2004; Eveland, Marton & Seo, 2004) developed a measurement that captures one dimension of knowledge structure – the density of interrelations. Knowledge structure density (KSD) is defined as “the simple density or number of interconnections across concepts within a domain of memory” (Eveland, Marton & Seo, 2004, p. 88). This measurement can be applied to studying any knowledge domain such as knowledge about a political party, a particular issue, or even a political actor. A dense network of political concepts suggests more sophisticated understanding.

2.3 Political Knowledge in the Current Study

While my review does not exhaust all the existing conceptualizations and operationalizations of political knowledge, the literature mentioned so far reflect several prototypical approaches to defining and measuring political knowledge. I have sporadically commented upon these treatments of political knowledge from different studies. Now I will summarize my main points concerning the definition of political knowledge, strengths and weaknesses of different approaches, and dimensionality of political knowledge.

A proper definition of political knowledge begs at least three key questions. First, what is the purpose of possessing certain type of knowledge? Second, which aspects of political knowledge shall we emphasize, is it facts/differentiation/denotative, structures/integration/connotative, or both? Third, where shall we draw the boundary of political knowledge? Do shortcuts and daily life experience count, or does it need to be knowledge with substantive political orientation?

Whichever forms of democratic ideal we choose to endorse, making political decisions that represent one's own interest is an important criterion variable to validate our measures of political knowledge. I define political knowledge as the storage of information that can help citizens to make critical decisions in political participation. Here, participation not only refers to voting in elections, but other forms of participatory behavior such as protesting as well. Therefore, some candidate-focused questions such as "which candidate hates broccoli (Chaffee et al., 1994)" seems to be less valid because they play very limited, if any, role in helping citizens to make a meaningful voting decision.

Admittedly, my definition of political knowledge is a rather broad one. When speaking of information, it should include facts and understanding as well. These two dimensions are very difficult to be separated at an empirical level, but paying attention to both aspects of knowledge in survey questions is crucial. Although some empirical evidence attests to the fact that a higher level of factual knowledge goes hand in hand with more linkage among concepts (Fiske, Kinder, & Later, 1983; Luskin, 1987; McGraw & Pinney, 1990), factual and structural knowledge are distinctive aspects of human cognition (Jonassen, 1992). Measuring pure factual based knowledge questions can inform us how many discrete political facts one knows whereas measuring structural-based knowledge will show citizens' substantive understanding of politics.

Conceptual distinctions aside, attention to both factual and structural knowledge can lead to theoretical advancement in news media effects studies. For example, browsing Internet news online might have a positive function of strengthening the connections across issues but does not necessarily improve people's factual information holding (Eveland & Dunwoody, 2002; Eveland, Seo, & Marton, 2002; Eveland et al., 2004). Therefore, over-emphasizing one dimension of knowledge, be it factual (e.g., Delli Carpini & Keeter, 1996) or belief system (e.g., Converse, 1964), is theoretically inadequate.

Very few studies in the realm of political communication operationalize structural knowledge in a way that mimics political scientists' approaches (e.g., Luskin, 1987). However, it is improper to claim that political communication studies never paid attention to structural knowledge. Political communication scholars are interested in campaign effects and the impacts of news media in general while the use of news media tends to have weak influence on the construction of a highly abstract political schema or a broad belief system because of the episodic nature of news coverage, television news in particular (Iyengar, 1991).

Shortcuts and knowledge crystallized from daily life experience are difficult to quantify. The only way to justify the existence of ordinary people's collective intelligence is to develop some standards of "correct voting" and to evaluate them against some real election results. Given the low level of political knowledge among the public, if a large percentage of the voters still can pick the "correct" candidates, there should be some reasons to account for this. Following this logic, Lau and Redlawsk (2006) examined the ANES data and found that around 72% of voters vote correctly in a typical presidential election, thus lending credence to the argument of "limited-information rationality" (Popkin, 1991). It seems that to incorporate shortcuts

and daily life experience in political knowledge has its appeal; nevertheless, to operationalize this concept is a daunting task, if not impossible.

To summarize, I hold the following viewpoints toward conceptualizing and operationalizing political knowledge to be appropriate:

- a) Political knowledge is the stored information that can help citizens to make critical decisions in political participation.
- b) Political knowledge is multidimensional at a conceptual level: facts vs. structure.
- c) At an empirical level, general political knowledge should be separated from issue knowledge and current affairs knowledge.
- d) The content of survey questions (current affairs vs. issue stances) should correspond to particular research questions.
- e) In survey studies, multiple-choice questions are better than open-ended questions in that they encourage respondents to guess.

The current study examines political knowledge in the context of American presidential elections. My operationalizations of political knowledge will focus on political information that can help the electorate to make voting choices. Two different types of questions will be employed in my study to measure political knowledge: first, issue stance knowledge, reflecting whether or not a voter knows presidential candidates' stances on important political issues; and second, reasons for like/dislike questions, signaling voters' reasoning and thoughts explaining their candidate preference. General political knowledge questions are not used in this study for the reasons mentioned previously. Detailed information as to operationalization will be elaborated in methodology section.

CHAPTER 3

NEWS MEDIA USE

3.1 Conceptualizing: Exposure, Attention, and Gratifications

Similar to political knowledge, news use is an intriguing concept that is connected with a host of media-related constructs. The first step to developing a reasonable treatment of news use is to explicate the meaning of use. When speaking of use, we can refer to the actual behavior of consuming the content of news media, the intention of accessing news, and even the consequences of use.

Exposure is the most common proxy for use (e.g., Atkin, Galloway, & Nayman, 1976; Holbrook, 2006; Kenski & Stroud, 2006; McLeod & Perse, 1994). Conceptually, exposure denotes the amount of time (or frequency) with which an individual acquires information from a particular form of news outlet. This definition is straightforward and can be operationalized with a relatively high degree of accuracy (e.g., number of days on a weekly basis, or length of time on a daily basis).

An alternative way of conceptualizing use is to define use as levels of attention (McLeod & McDonald, 1985; Chaffee & Schleuder, 1986). Attention is the amount of cognitive effort the audience invests (Chaffee & Schleuder, 1986). Attention to news media has important theoretical implications for studying political communication because how much mental effort one invests can determine the consequences of media use. For instance, television news exposure was found to be unrelated, or even negatively related to people's political information holding while television news attention correlates positively with political knowledge (Chaffee & Martinelli, 1995).

A third element that bears close kinship to use is reliance (Berkowitz & Prichard, 1989; Culbertson & Stempel, 1986; Volgy & Schwarz, 1980). Culbertson and Stempel (1986) argued that use and reliance are two different concepts and reliance reflects a state of mind that brings in no information by itself. Relying on television does not necessarily mean using television frequently (Faber, Reese, & Steeves, 1985). This concept has been almost abandoned by recent research, primarily because of its conceptual murkiness and its overlap with other constructs such as media schema and media trust.

“Gratifications sought” embodies another dimension of use which emphasizes the notion of an active audience (McLeod & McDonald, 1985). Derived from the uses and gratifications perspective (Katz, Blumler, & Gurevitch, 1974), the idea of surveillance gratification speaks to people’s needs of knowing what’s happening around them. Similar to reliance, this concept was not very popular compared to both exposure- and attention-based conceptualizations. However, a recent theoretical model of news learning, the cognitive mediation model (Eveland, 2001; 2002) highlights surveillance gratification by treating it as a motivation factor that can be translated into people’s information processing strategies, which subsequently leads to effective learning.

Another less conventional practice of defining use is the use of “recall” as an indicator. Chaffee and Martinelli (1995) proposed three levels of media use: exposure, attention, and recall. But, the question is: Is recalling a campaign story from the newspaper a reflection of use or *de facto* learning? A conceptualization of use too proximal to its effects might produce spurious effects. For example, some studies (e.g., Brians & Wattenberg, 1996) found that recall of political ads is a significant predictor of political issue knowledge. Nevertheless, exposure and attention to political ads does

not guarantee successful recall, which signals something more than use, be it interest, motivation, or intelligence.

The concepts I have reviewed so far represent some dimensions of news use in the existing political communication literature. But I do not suggest that all of these dimensions should be included under the rubric of “news use”. I will next discuss some issues regarding the operationalizations of news use.

3.2 Operationalizations of News Media Use

The measurements of news media use started in a crude form. “How much news you have seen” (e.g., Atkin et al., 1976; Tan, 1980) is the typical question asked in survey questionnaires; and the response options are worded in a way such that the respondents have to interpret the meaning of “how much”: very often, quite often, sometimes, rarely, and never. Since different individuals have different standards for judging the meaning of very often and quite often, this measurement is susceptible to contamination of idiosyncratic interpretations. A better measure asks whether or not respondents have been exposed to news information in the media or number of days people consume news on a weekly basis (Becker & Dunwoody; 1982; Holbrook, 2006; Kenski & Stroud, 2006; McLeod & Perse; 1994; Pan et al., 1994).

In response to Chaffee and Schleuder’s (1986) suggestion, research today often tends to embrace both attention and exposure measurements (e.g., Chaffee, Zhao, & Bleske, 1994; Drew & Weaver, 1991; 1998; 2004; Eveland & Scheufele, 2000; Pettey, 1988; Stamm, John, & Martin, 1997; Weaver & Drew, 1993; 1995), although there are still considerable studies employing attention or exposure only measurements (see Eveland, Hively, & Shen, 2007). Some include attention exclusively (Cho & McLeod, 2007; Moy & Gastil, 2006; Moy et al., 2004; Zhao & Bleske, 1998) while others use exposure only (Holbrook, 2006; Kenski & Stroud, 2006).

Another noteworthy issue relates to how focused attention and exposure measurements should be. Culbertson and Stempel (1986) labeled their measure as “focused media use,” operationalized as reading or viewing about a given topic area such as state or local politics, as oppose to general media use regardless of content. McLeod and Perse (1994), when measuring newspaper reading, asked questions related to international affairs, national government politics, and local government and politics. Pan and colleagues (1994) measured news use concerning the Gulf War when studying news media’s impacts on people’s impression about the war. In studying presidential elections (Drew & Weaver, 1991, 1998, 2004), researchers ask how much attention people pay to news stories about the presidential campaign. The choice of a general or a specific measurement should correspond to the topic of study.

3.3 News Media Use in the Current Study

I have spelled out the key components of news use together with several issues of measuring news use. I will now summarize my foregoing points and discuss the operationalization I will adopt in this study. How shall we make our choice, given the numerous constructs related to news use? McLeod and McDonald (1985) suggested a multidimensional measure¹ including time spent, reliance, exposure to content, level of attention, and gratifications sought. Their suggestion has its merits. A broad definition will benefit the field with a comprehensive understanding of the relationship between the audience and the news media. However, to include too many sub-dimensions under use might be inappropriate because the meaning of “use” is primarily behavior oriented. I define news use as the amount and the intensity of interactions between audience and the news media. It seems that reliance and gratifications sought, though theoretically appealing, are somewhat far from the meaning of “use.” Exposure and attention should

¹ McLeod and McDonald (1985) use the broader label media orientation in their study.

be the staples of media use: exposure quantifies the amount of news use while attention quantifies the quality of news use. As for recall, it should be regarded as a consequence of use rather than an indicator of use. A recent conceptualization by political scientists (e.g., Prior, 2005) asks respondents to rank their television programming genres, and constructs a ratio index indicating the relative preferences for entertainment over news. Relative preference is a concept similar to gratifications sought. But one disadvantage of relative measures is that they are difficult to interpret; therefore, I prefer absolute measurements over relative scales.

Conceptually, exposure and attention are the two dimensions of news use. Nevertheless, this does not mean that empirically they should be separated in such a way. As mentioned above, the most recent empirical evidence (Eveland et al., 2007) favors an approach of combining exposure and attention indicators from a given source or channel of news. People who spend more time with a particular medium are more likely to invest more cognitive effort in it. To avoid the problem of multicollinearity, it is better to consider different types of news channels as dimensions of news use.

Although combining attention and exposure measurements of news use will be a better strategy, as is advocated by Eveland, Hively and Shen (2007), in the current study, I will adopt exposure-only measures. There are several points need to be clarified. First, historical data sets spanning more than 50 years impose some constraints to this study in terms of selecting news media use variables. Albeit most recent media use related surveys have adopted attention measures, early surveys usually contain exposure measures only. For obtaining a consistent measure across years, compromise has to be made to adopt a measure that has been repeatedly used in different data sets.

Of course, data limitation is not the sole justification (if it is one) for the way in which news use will be operationalized in this study. Empirical evidence from different

studies has shown that exposure measures are highly correlated with attention measures (e.g., Eveland, Hively, & Shen, 2007; Weaver & Drew, 2001). Moreover, a most important reason for discarding attention measures in the current study is that attention-based measures are theoretically highly related to interest, which makes it difficult to separate personal motivation from actual behavior of news media use. As I will elaborate in the following chapters, the effect of news media use could actually be contingent upon motivational factors. Given the same amount of news exposure, individuals with high motivation when facing a “political crisis” will learn more effectively than otherwise. Therefore, it is important to obtain a “clear” news media exposure measure untainted by motivational and psychological factors. Admittedly, an exposure-only measure of news use is not the ideal way to operationalize news use, but it is sufficient and adequate in this particular study to capture the variance of people’s amount of news media consumption. Both data limitation and the theoretical framework of this study justify for the use of exposure-based measurements. More detailed information as to question wording will be elaborated in the method section.

CHAPTER 4

NEWS USE AND POLITICAL KNOWLEDGE

Through decades of news learning research, many scholars to agree that the average level of factual political knowledge is low and people learn little from the news (Converse, 1990; Delli Carpini & Keeter, 1996; Graber, 1988; Neuman, 1976). In face of these discouraging facts, scholars have identified a host of factors to explain how and why people learn from news.

In this section, I will review some major theoretical arguments that connect news media use to political knowledge at an individual level. Some of the studies might be tangential to the core arguments of this study and I might digress from time to time because of the large body of literature that has been accumulated over the past several decades. However, it should be clarified at the very beginning that the purpose of this review is two fold. First, through summarizing various studies on this topic, I want to point to the fact that past scholarly attention has been predominantly focusing on individual-level explanations with regard to political learning from the news media. In contrast, predictor variables at a societal level are somehow relegated to a minor role, or at least are not seriously studied. Second, more importantly, I hope to sort out some of the most fundamental individual level predictors of news learning that can be potentially connected with societal level variables. As will be discussed in detail later on, motivation is the key variable that has consistently showed its power of predicting political learning across numerous empirical studies. This variable can serve as a theoretical ground upon which I will develop my cross-level model of news learning.

4.1 Individual Level Evidence: A Review of Existing Theories

Many early studies highlight the role of socio-economic status, considering it an exogenous variable that leads to both news media use and higher levels of political knowledge (see Figure 4.1). On the one hand, socio-economic status plays a telling role in influencing how much one knows (Delli Carpini & Keeter, 1996). Formal education provides people with an effective cognitive map so that incoming information, primarily from the mass media, can be retained and understood with ease (Wade & Schramm, 1969; Wicks, 1992). Studies on information acquisition from the news media during elections conducted by scholars from Indiana University since the late 1980s (Drew & Weaver, 1988; 1991) consistently find that education explains a large part of the variance in political knowledge.

Figure 4.1: SES, news use and political knowledge

On the other hand, socio-economic status can influence people's intention and actual behavior of accessing news information, formulating an indirect impact on learning (McLeod & Perse, 1994; Fredin, Monnett, & Kosicki, 1994). This notion is consistent with Tichenor, Donohue, and Olien's (1970) explanation of the knowledge gap hypothesis, although they consider social economic status a social structural factor rather than individual differences. However, to claim that the association between news use and knowledge is purely indirect is untenable. After controlling for social economic

status to fend off the spurious relationships attributable to education and income differences, many studies still find a significant relationship between news use and political knowledge.

A big debate that drives early political learning studies is which medium is more powerful in terms of educating the public about politics. Among the three traditional forms of news media, television news and print newspapers receive the most attention whereas radio news is less studied (for a few early studies on radio news, see Stamm, Johnson, & Martin, 1997; Stauffer, Frost, & Rybolt, 1981). Two explanations were posited to account for media modality differences in facilitating political learning.

The first explanation emphasizes the difference in media formats (see Figure 4.2). The widespread of television during the 1970s caused many concerns about its negative consequences, and plenty of indictments have been issued against the use of television. Television is characterized as a medium of entertainment whereas the newspaper is perceived as a medium of learning (Wagner, 1983; Gunter, 1987).

Michael Robinson's "videomalaise" hypothesis (1976) suggests that television news leads people to consider their leaders as remote and unresponsive. Hallin (1986) argues that television places greater emphasis on video images and personalities, which curbs effective knowledge acquisition. Iyengar (1991) finds that a large percentage of television news is episodically framed, and he suggests episodic news tends to leave its audience with a fragmented and shallow understanding of politics. In addition, television news moves quickly, and unlike with newspapers, individuals have less control over the pace of information flow (Tan, 1981). Moreover, the "now...this" (Postman, 1985) format of presenting news on television puts audiences in an outlandish world without any connections between individual stories. Other researchers consider that the visual element distracts audience's attention to verbal information

(e.g., Robinson & Levy, 1986). In contrast, newspapers seem to possess superior technological characteristics for effective learning. The inverted pyramid format captures the most important points, thus helping readers get the main points from the news effectively (Graber, 1994).

Figure 4.2 Media form as a determinant of effective learning

A second explanation is based on the content differences across the media (see Figure 4.3). Television news constantly forgoes background information necessary for appropriate understanding of news (Neuman, Just & Crigler, 1992; Postman, 1985). In contrast, newspaper stories contain relatively more contextual information than television. As Barnhurst and Mutz (1997) note, given television's advantage to report news faster, newspapers shifted to covering stories with greater depth and complexity. Patterson and McClure (1976) claim that substantive issues were rarely covered in television news, and that watching television news programs does little to enhance one's knowledge about politics. Instead, they suggest that televised political ads are more effective than the news because political ads contain explicit issues stances of the candidates. Wade and Schramm (1969) suggest that television is important as a source for learning, but when people are seeking in-depth interpretation and context information, print media are a better choice. In the context of a campaign, television news coverage tends to focus on campaign events, personalities, and strategies,

whereas candidate and party issues stances are covered in newspapers more frequently (Graber, 1988; Chaffee & Frank, 1996).

Figure 4.3 Media content as a determinant of effective learning

Another noteworthy study comes from Zhao and Bleske (1998). Contrary to the conventional wisdom, they argue that horse race polling and coverage are not necessarily negatively linked with people’s learning of substantive political content. The excitement from horse race coverage can stir up people’s interest in politics, which is contributory to political learning (see Figure 4.4). To some extent, their accounts could be considered as a derivation of the “media content explanation”. However, the difference lies in the fact that they point out a mediator in this process, that is, political interest.

Figure 4.4 Interest as a determinant of effective learning

So far I have covered four theoretical models connecting news media use with political learning. A major breakthrough in this line of literature is a meta-theoretical umbrella labeled as the O-S-O-R model (McLeod, Kosicki & McLeod, 1994). This

model maintains that the influence of a psychological stimulus (media information) does not have a direct impact on people because people process information in different ways; and that people's information seeking behavior is not universal, instead, the types of media information they are exposed to are guided by their predispositions.

The cognitive mediation model (Eveland, 2001; 2002) inherits the fundamentals of the O-S-O-R model. The reason that some people possess higher political knowledge than others is that they possess higher motivation (i.e., information gratification needs), which will be translated into attention and elaboration, which are positively related to political knowledge (see Figure 4.5). The key variable in this model is elaboration, the cognitive activity that people relate news content to their existing knowledge background. Intense cognitive activities will strengthen the memory nodes so that more information retention can be observed for those who elaborate news content. Another theoretical model that highlights processes is Holbert's (2005) intramedia mediation model. This model argues for the complementary nature of different types of news use. The use of one news medium is said to promote the use of another, leading to the increase of political knowledge (Figure 4.6).

Figure 4.5 The cognitive mediation model

Figure 4.6 The intramedia mediation model

4.2 Theoretical Advancements: Causation, Mediation, and Moderation

While my previous discussion explored different theoretical explanations for the relationship between news use and political knowledge, I want to summarize several historical trends in this area of research. They are: a) increasing scholarly attention to the issue of causation; b) rising efforts to disentangle the “processes” of learning; and c) more sensitivity to the issue of contextual factors.

With a few exceptions (e.g., Atkin et al., 1976), most studies in the past few decades treated political knowledge as a dependent variable without too much suspicion. However, early research on the knowledge gap hypothesis points out that more knowledgeable people are more likely to expose themselves to media information because of their interest, cognitive skills, and background knowledge (Tichenor, Donohue, & Olien, 1970). This reversed influence flow from knowledge to media use has not been subject to serious empirical tests in the past. Recently, Eveland and his colleagues (Eveland, Hayes, Shah, & Kwak, 2005) employ panel data to tackle with this problem directly. Using SEM modeling strategies, they find that the causal flow from media use to knowledge is more plausible than the reverse.

Second, understanding process is the key to theory advancement. Most early studies follow a stimulus-response framework, at least empirically. Apart from control variables, media use and political knowledge are the only two key variables in most regression equations. Many theorists (e.g., Chaffee, 2001; McLeod & Reeves, 1980)

place high value on studying causal chains. In particular, the introduction of the O-S-O-R model (McLeod, Kosicki & McLeod, 1994) into the field stimulated many works that highlight communication processes (e.g., the cognitive mediation model and the intramedia mediation model).

Third, given the prevalence of inconsistent findings across studies, recent scholarly effort has shifted to answering the question of when, rather than whether a given medium has any impact on learning. Simply put, more and more studies are interested in the phenomena of “interaction,” or conditional media effects. One tradition of this line of inquiry derives from the knowledge gap literature, focusing on the interaction between SES and news media consumption (e.g., Eveland & Scheufele, 2000). Other than individual level moderating variables, contextual factors such as the information environment and political context have been added to the list of consideration. I will defer my discussion of macro-oriented qualifiers to the following sections. But it is sufficient here to say that contextual variables such as interpersonal discussion networks (Feldman & Price, 2008) have an important impact on learning, and media effects are far from universal. Taken together, theoretical issues such as causation, mediation, and moderation have driven a large amount of scholarly work in the past decade. The questions of “how” (i.e., investigating process, mediation) and “when” (i.e., investigating context, moderation) have replaced the question of “whether.”

4.3 Motivation: A recurring theme

There is one variable that I have not thoroughly discussed but plays a pivotal role in political learning, that is, motivation (i.e., interest, gratifications sought, topic relevance, etc.). Motivation is the prime driving force for news information attention. It can be characterized as a mediator (Viswanath et al., 2000) between SES and political

learning, as a moderator which can reduce the knowledge gap (Kwak, 1999), and as an exogenous variable that accounts for a large proportion of the variance of political knowledge (Eveland, 2001, 2002).

The existing literature, old or new, implicitly or explicitly underscores the function of motivation. Hyman and Sheatsley (1947) found it essential to break audience's psychological barriers to stimulate people's interest in knowing and learning. Bennett (1988) concluded that motivation and capability can account for around half of the variation in political knowledge. Luskin (1990) argued interest is the most robust predictor of people's political knowledge, even outstripping education in its predictive strength. Bennett and Bennett (1993) through their longitudinal study of American's knowledge of party control of House Representatives concluded that "motivation remains the key to political knowledge (p.77)."

Motivation is firstly considered as an exogenous variable that can explain a considerable amount of variance in political knowledge. Most political communication studies have a control variable such as political interest. However, in those studies, motivation is not a variable under theoretical consideration. Another approach treats motivation as a derivation of social demographic variables. Delli Carpini and Keeter (1996) concluded that motivation is determined largely by education and age. Similar views can be found in other studies (Fredin, Monnett, & Kosicki, 1994; Viswanath et al., 1993), emphasizing the underlying social structural cause of motivation.

A third position admits the importance of social demographic variables; nevertheless, it maintains that SES is not the sole determinant of motivation (Ettema & Kline, 1977; Genova & Greenberg, 1979). A last viewpoint considers motivation a moderator of learning, which can mitigate knowledge gaps across social segments. Viswanath, Kosicki, Fredin, and Park (2000) find that if a topic is relevant to the

members of a given group, knowledge gaps are less likely to be present in that group. Following this logic, Kwak's (1999) study demonstrates that motivational variables can modify the relationship between education and knowledge acquisition.

To conclude, all the theoretical models I have mentioned have their own strengths and weaknesses. To explain the differential learning effects across different news sources by pointing out the uniqueness of media formats helps us to understand how media technology features influence communication effects. The explanation pointing to the content differences across news outlets can have implications for journalism education. However, these two explanations deal little with the audience. To understand why the audience learns, we need to understand their psychology. Therefore, I favor motivation based explanations, to name a few, Zhao and Bleske's (1998) study on horse-race polls, Eveland's (2001) cognitive mediation model, and Kwak's (1999) knowledge gap studies with motivational variables. While these studies differ in many aspects, a common factor that can be extracted from them is the emphasis on motivation. Zhao and Bleske (1998) showed news content with a game schema can trigger interest and Eveland (2001, 2002) demonstrated motivation (i.e., information gratification sought) can be translated into cognitive effort. I therefore consider news media use to be connected with political knowledge through several routes: a) exposure to news media can stimulate people's political interest, and particularly negative news; b) news media provide information, particularly when a topic is heavily covered; c) when motivation is combined with sufficient information and cognitive effort, people not only learn, but they will learn effectively.

Now it seems clear that motivation takes a prominent role in conditioning people's information seeking, processing, and acquisition. What have been left unexamined are the antecedents of motivation. Blumler (1979) argued that researchers

should investigate the antecedents of motives but there are very few studies in this area make such an effort. One host of possible and important factors that controls the ebb and flow of learning motivation is macro-level variables. Stimson (2004) aptly points out that crisis make people notice and pay attention to politics. When people pay attention, positive functions of democracy will take place.

4.4 Societal Level Evidence: A Less Studied Area

A cursory review of the literature on citizen's political knowledge reveals that most studies are located at the individual level, whereas the other half of the story, factors situated at a societal level, has been less often explored.

What then makes macro-level variables valuable in studying political communication effects? The answer could be probed in at least two directions. Foremost, from a contextualist perspective, all theories are true a priori and it is important to specify the contexts that various theories apply (McGuire, 1983; see also Perry, 1988). Covering laws and static axioms are rare in social sciences and the value of a social scientific theory lies in its specification of social context where original meanings of individual intention and action can be derived (Weber, 1949). Perhaps not everyone finds such an epistemological stand easy to identify with, but empirical evidence from decades of media effects studies has persuaded many of us to acknowledge the unique role of context. Since societal-level factors usually elude scholars' attention, underspecified theoretical models frequently give rise to conflicting findings, which hamper our understanding of media effects. As has been pointed out in the introduction section, findings from Drew and Weaver's research series on political learning during U.S. presidential elections have not been highly consistent: in some years, news exposure variables were robust predictors of political knowledge but in other years, the effects failed to materialize (e.g., Drew & Weaver, 1991; 1998; 2004;

Weaver & Drew, 1993; 1995; 2001; also see Liu & Eveland).

Such contradictory study results might suggest the potential of contextual effects at work (Downs & Roche, 1981; Eveland & Dylko, 2006; Eveland & Liu, 2005). Historical contexts and social structural differences can modify mass communication effects. Interest in interaction effects propels many researchers to attend to contingent effects. In regards to the study of citizen's political information holding, there have been an increasing number of studies aimed at discovering the moderators which condition the relationship between news use and one's level of political knowledge. Nevertheless, moderator-seeking endeavors do not proceed too far, not even beyond community level variables.

Epistemological issues aside, individuals are not insulated from their living environment – a point coming close to the notion of cross-level theorization. Cognitions and actions of individuals not only express differences in personal characteristics but also reflect the vicissitude of social settings (Blau, 1960; Coleman, 1958). The impact of social structure on individual behavior has been a recurrent theme of sociology (Alenxander, Giesen, Munch, & Smelser, 1987) and political science (Huckfeldt & Sprague, 1987; MacKuen & Brown, 1987). Even in communication, quite a few theorists (Chaffee & Berger, 1987; Paisley, 1984; Pan & McLeod, 1991; Ritchie & Price, 1991; Slater, Snyder, & Hayes, 2006) maintain that human communication is a multilevel social phenomenon. Chaffee and McLeod (1973) argued that “A person's use of mass communications does not occur in isolation from the rest of his social life.” (p.237) Such an argument begs two theoretical questions: the extent to which individuals are influenced by their social surroundings, and whether individual factors interact with contextual features (Burbank, 1995).

For the former, individual actions are constrained and channeled by “social facts,” in Durkheim’s term (Durkheim, 1982). After 9/11, for instance, almost every U.S. citizen heard about the terrorist attack due to the massive amount of relevant information provided by news outlets. The latter consideration speaks to the fact that societal level factors might qualify the relationship between two variables (i.e., societal-level variables moderate micro-level regularities). For example, given the salience of perceived life threat and the cornucopia of news information related to 9/11, urban area audiences might retain more news content than their rural counterparts even with the same amount of news exposure because of their heightened attention and elaborated cognitive processing.

Repeated calls have been made to advance communication studies with cross-level theorizing² in the past several decades, yet studies in political communication that span both micro and macro domains are sparse and limited, not to mention the wished-for cross-level model. In the following sections I will first review some existing literature that emphasizes the context for political learning and then explicate one macro level variable that I will try to theorize about in this study.

² See two special issues from *Communication Research* (Price & Ritchie, 1991) and *Human Communication Research* (Slater, Snyder, & Hayes, 2006). The former paves a theoretical ground for speculating about the micro-macro problem in communication studies and the latter provides methodological details with regard to hierarchical data modeling.

CHAPTER 5

A CROSS-LEVEL MODEL OF POLITICAL LEARNING

A satisfactory cross-level theory mandates a clear definition of context. The notion of context in social science research is very pluralistic and can include geographical context, temporal context, social structural context, and cultural context (DiPrete & Forristal, 1994). Although macro societal factors have not been thoroughly probed in political communication, the extant literature has provided us with at least three foci that can be considered contextual: interpersonal network, community/neighborhood features, and either news media or information environment.

It should be noted that not all these contextual variables are directly related the theme of this study. The purpose of providing a brief review of contextual variables for political learning is a) to highlight the importance of studying social context, b) to suggest the limitation of the existing literature relevant to my proposed study, and c) to show how information environment will have a great impact on news learning.

5.1 Conditional Learning Effects: Defining the Context

First, studies have shown that one's immediate social connections can have direct impact on the social flow of political information. Though interpersonal political discussion is found to be a significant predictor of political knowledge (Eveland, 2004; Eveland & Thomson, 2006), learning about politics is constrained by both social structure and personal selective perception (Eulau, 1986; Feldman & Price, 2008; Huckfeldt & Sprague, 1987). Second, the knowledge gap literature informs us that the nature of community one resides in can either promote or deter individual's news

knowledge gain (Gaziano, 1988). Close ties with the local community could facilitate news consumption and potentially mitigate local public affairs knowledge gaps (McLeod et al., 1996; Rucinski, 2004; Viswanath, Kosicki, Fredin, & Park, 2000). High levels of conflict about local issues within a community drive the intensity of interpersonal discussion and thus can help disseminate news information more widely (Donohue, Tichenor, & Olien, 1975). Lastly, and most relevant to the media, information environments fostered by local media have direct implications for what citizens will learn. Individuals in mass-mediated societies have a symbiotic relationship with the media: the audience's beliefs and attitudes toward social and political issues are shaped by available information disseminated by the media (e.g., Delli Carpini, Keeter & Kennamer, 1994; Jerit, Barabas & Bolsen, 2006), and the media provide what they perceive to be desired by the audience (McChesney, 2004). In addition, false information spread by the news media can misguide the audience (Jerit & Barabas, 2006).

The studies I have discussed thus far lend much credence to my earlier point: news media effects do not follow universal laws, and the extent to which individuals are influenced by the media is likely to be contingent upon social context. Notwithstanding their unique contributions, these studies are lacking in some respects. Overall, it seems social structural differences (e.g., spatial context) are highlighted while both social dynamics and changes in time are less prominent. Some context definitions feature individuals' immediate social milieu (e.g., interpersonal network) and therefore macro societal level characteristics are not mentioned. The information environment, embodied by one's interpersonal and mass communication setting, serves as a dominant contextual explanation for citizen's of political knowledge but its own variation is not explicitly explained and is treated as an exogenous given. In other

words, I argue that in order to acquire a more sophisticated understanding of citizens' political learning, motivation (Bennett & Bennett, 1993) and the information environment (Jerit & Barabas, 2006) should be placed in a real social context so that they can be explained with appropriate antecedents. In other words, we need to explain why sometimes the news media provide more information than others.

In his critique of the dominant paradigm of media sociology, Gitlin (1978) bluntly characterizes most studies from the paradigm as exaggerating the importance of independent variables that are located close to the dependent variables, "as if one were studying the influence of streets on mortality rates during an enormous flood." (p. 218) The metaphor might be somewhat overstated, but it does contain a grain of truth: communication effects scholars need to expand their domain of scrutiny by exploring variables which can explain the antecedents we usually think of as exogenous. Luskin (1990) summarizes that citizens become politically informed if they have the motivation, capability, and opportunity to learn, but almost no studies take a step further by asking, other than one's socio-economic status, *what* determines these factors. Assuming one's political learning capability is largely determined by education and through socialization thus can not change in the short run, social dynamics that are capable of both influencing citizens' motivation and opportunity to learn should be of high theoretical value.

5.2 The Economy: Another Context for Political Learning

One possible candidate to fill the theoretical void identified above is the economy, a variable denoting national economic performance. At an operational level, real income levels, unemployment, and inflation have all been used in different studies as indicators of the economy (Hibbs, 2006; Lewis-Beck, 1988). The investigation of economy along with its intricate relationships with presidential approval rate,

macro-partisanship, presidential voting results, public opinion, and government behavior is the cardinal practice in political economy (e.g., Erikson, MacKuen, & Stimson, 2002; Page & Shapiro, 1992; Stimson, 2004). Without going too far into the political economy literature it is sufficient to argue that economics as a basic activity of human society has been theorized to have important implications for political processes at both an individual level and a collective level (Monroe, 1983).

The long-standing notion of *homo economicus* in social science suggests political economy variables could be promising candidates as predictors and moderators of political communication effects. In political science, political behavior studies with an economic approach attribute part of the variance to individual behavioral and differences in economical calculus (e.g., Books & Prysby, 1999; Rickert, 1998; Sproule-Jones & Hart, 1973). Downs (1957) considers information seeking during an election as a part of the cost voters pay to achieve personal well-being. He argues that voters' decision-making consumes time and other scarce resources and they must determine how many resources they would like to invest into political learning (Downs, 1957). A rational actor will utilize the basic marginal cost-return principle of economics to decide how much to learn in an election in order to make a voting decision.

Following this logic, investment in political learning should be theoretically correlated with the general political economic environment where voters are positioned. Amiable social environments ease the need for political information acquisition, whereas inhospitable situations energize citizens to be informed to make critical decisions and take actions (Marcus, Neuman, & McKuen, 2000). In other words, when voters' economic interest is facing serious threat, learning about politics through the news media will bring far more marginal returns than learning during a time when no

substantial economic benefits can be expected. If the incumbent president does a good job of maintaining the economy, there will be relatively fewer voters trying to consider alternative candidates and therefore the collective level political knowledge during an election will be lower.

Numerous news learning research studies indicate that the average level of factual political knowledge is low and people learn little from the news (Converse, 1990; Delli Carpini & Keeter, 1996; Graber, 1988; Neuman, 1976). However, static levels of political knowledge per se are not enough to justify pessimists' concern that democracy will be hamstrung by an ill-informed electorate. It seems studying the fluctuation of levels of political knowledge as a function of political economy context is at least as important as, if not more valuable than, gauging the absolute level of political knowledge among the public. As argued by Muller (1992), democracy requires only a "minimal human being" who pursues his or her self-interest. If we can find evidence to support the idea that the electorate learns significantly during a time when their interests are threatened, then their ignorance at other times will become less relevant.

One might argue that among the various political issues that are addressed as part of U.S. presidential elections, the economy is not the only one that concerns the electorate. Issues like abortion, the environment, race, health care, education, and crime also are highly important to voters and can influence their course of action. Although we should not downplay the importance of other aspects of political reality, there are several arguments that defend the primacy of the economy in elections. First, for politicians, the economy is a "valence" issue (Stokes, 1963) which represents assertions of support for universal values. Almost in every U.S. presidential election, major candidates mentioned the economy. There is low controversy over supporting economic prosperity, although there is a party difference at a strategic level (i.e.,

Democratic Party's concern about unemployment and Republican Party's concern about inflation). Second, unlike some political issues that impact different issue publics, the economy is a universal issue that concerns all walks of life. The fact that the importance of materialistic well-being is waning in post-industrial societies (Inglehart, 1997) does not discount the material basis of human life. The universality of economic concern is still potent in U.S. politics. Plus, as sociotropic voter theory (Kinder, 1981; Kinder & Mebane, 1983) argues, individuals' assessment of the national economy is distinguishable from their own pocketbook considerations. In addition, the domestic economy has been a major indicator of government performance that is to be assessed by political economists and independent research institutions. As mentioned previously, the economy has been empirically demonstrated to explain a substantial proportion of the variance in citizen's political cognition and action at a collective level, for instance, presidential approval rate (e.g., Lewis-Beck, 1988; Stimson, 2004). Last, according to Maslow (1943), materialistic benefits are the basic need of human being. Seen in this light, the economy, which speaks to the materialistic benefits of the voters, is placed in a relatively lower position in the pyramid of human needs in contrast to other issues.

I might also argue that the logic of economic rationality, though well developed in political science, might not be directly applicable to political communication effects theories. The applicability of the rational choice model in studying political learning could be justified by attending to the value and cost of political information. Quite a few communication theories have highlighted the purpose with which people communicate. The uses and gratifications perspective (Katz, Blumber, & Gurevitch, 1974) has it that information brings specific utilities and gratifications to individuals. The uncertainty reduction theory (Berger & Calabrese, 1975; Berger & Bradac, 1982), though developed in the domain of interpersonal communication, also attests to this

idea. During an election, the primary utility the electorate obtains from the media is related to vote decision. Information also comes with a cost. Voters' news consumption behavior consumes time and other scarce resources and they must determine how many resources to invest into political learning (Downs, 1957). A rational actor will utilize the basic marginal cost-return principle of economics to decide how much information to acquire from the news media in an election to make a voting decision. Recent studies combining media effects models with the rational choice model produced fruitful results. For example, Sheafer (2008) examines the economic voting hypothesis by focusing on the role of news media in framing economic issues. In short, rational choice model is not incompatible with communication theories.

5.3 A Cross-level Model of Political Learning

The key for multilevel theory construction lies in logical coherence, which weaves individuals and society together; without which the notion of context effects appear theoretically vacuous (Dunleavy, 1990; Erbring & Young, 1979; Hauser, 1974). Obviously, to argue that economic conditions have a direct impact on the public's political knowledge levels sounds untenable. Voters are simply not puppet-like actors whose learning behavior is directly manipulated by external social and political situations. A Skinnerian stimulus-response model is inadequate for explicating how the ebb and flow of economic conditions co-vary the public's learning from the media.

I have briefly touched upon the idea of Downs (1957) and Marcus et al. (2000) earlier. In the ensuing paragraphs, I will further explain two related theoretical frameworks in more detail for my "cross-level model of political learning", against which I can then elaborate on the "auxiliary theories" (Hannan, 1971): logical statements which link micro and macro variables in the model.

Theoretical Ground: Cognitive and Affective Reaction to Economy. Individual action is an end-result of both rationality and affect. To take a cognition based explanation first, there are a series of intricate mechanisms whose materialization is contingent upon the grounds of rational action in my model. Rational choice has been considered by many theorists as one of the promising perspectives for cross-level theorizing (Coleman, 1981; Wippler & Lindenberg, 1987) because it caters to both individual intentions and social situations. A basic tenet of rational choice theory (e.g., Downs, 1957) is that individuals are rational actors who monitor their environment and adjust their courses of action to achieve maximum utility. In the context of an election, voters estimate the costs incurred by learning about politics and the corresponding returns (Downs, 1957; Fiorina, 1981), and therefore a higher return/cost ratio will be more likely to generate motivation for action.

However, cognitive based theories do not fully capture the entirety of voters' experience. Affective intelligence theory (Marcus, Neuman, & McKuen, 2000), by contrast, argues that emotion plays a central role in politics. From a perspective of neuroscience, emotional evaluations are generated before conscious awareness. Marcus and colleagues (2000) posited two affective subsystems: the disposition system and the surveillance system. The disposition system stores information concerning habitual behavior whereas the surveillance system is a warning system. The surveillance system pays high attention to negative events and it signals to the individual when habitual behavior can no longer produce desired outcomes. Anxiety has two roles in politics. For one, anxious voters will experience heightened motivation, including the need for information and exerted information processing strategies. For the other, anxious voters will have a more open mind for absorbing information that is contradictory with their pre-existing beliefs.

Though different in their emphases, these two perspectives actually share similar predictions in the context of an election: political threat motivates political actors (Hansen, 1985; Loomis & Cigler, 1995; Miller & Krosnick, 2004; Ornstein & Elder, 1978). From a rational choice perspective, threat raises the returns of political involvement; and seen through the theoretical lens of affective intelligence, threat enhances anxiety and subsequent motivation to resolve the psychological tension. Dozens of studies demonstrate that prosperity enhances incumbents' electoral chances and strengthens the sitting government's political powers (Fair, 1996; Hibbs, 2006; Kernell, 1978).

From this, it can be inferred that from the voters' perspective a steady economy will make news use and political learning less "profitable." Satisfaction with the status quo discourage people from investing time and cognitive effort into acquiring political information, and taking shortcuts becomes an optimal choice. In contrast, a deteriorating economy leads to the opposite: heightened motivation to learn and negative emotions to resolve. If the electorate perceives the incumbent can no longer fulfill a desirable role of maintaining a good economy, comparing and contrasting alternative presidential candidates by paying attention to the news could bring the chance for change.

The Economy: The Meaning of Good and Bad. There is one point crucial to my theoretical framework I hope to clarify at this point before proceeding on. One might notice that I have been using phrases vaguely when describing the performance of the economy: steady, deteriorating, ailing, and faltering, etc. These definitives can denote different situations of the economy. First, they can be used to refer to the absolute status of the economy, either good or bad. Second, they can be used to refer to the change of the economy (relative status), which is more complicated: from good to better, from

good to less good, from good to bad, from bad to worse, from worse to good, etc.

Speaking of the economy, the absolute value of the GDP in the U.S. has been constantly growing in the past six decades, from 358.3 billion in 1952 to 13807.5 billion dollars in 2007 (U.S. Department of Commerce, 2008). There are only a handful of years when the U.S. economy experienced GDP decrease (1954, 1958, 1974, 1975, 1980, 1982, 1991) (U.S. Department of Commerce, 2008). Therefore, to use the absolute value of GDP as an indicator of the economy is not a good choice, as it does not differentiate a good year from a bad year too much, and it does not communicate the dynamic change of the economy.

In contrast, GDP growth percentage will be a better indicator of the economy, which quantifies the relative increase of annual GDP value. In the past six decades, the growth rate has been in a range from -1.9% (1982) to 7.2% (1984) (U.S. Department of Commerce, 2008). As a matter of fact, GDP growth has almost become an indicator describing the absolute status quo of the economy because it is widely used in the news media when reporting macro economics stories. In addition, it is a number that can be easily learned and remembered by voters rather than the absolute value of GDP. Therefore, when I say a good economy, it refers to a relative high GDP growth level; and when I say a bad economy, it refers to a low GDP growth, sometimes negative growth.

Based on my previous points, a series of relationships can be charted out in the model that connects the economy to political communication. For ease of exposition, they are categorized into four types: a) causal relationship at a macro level; b) cross-level causal relationship; c) micro level causal and moderating relationships; and d) cross-level moderating relationships. All these relationships are diagramed in Figure 5.1.

Figure 5.1 An economic model of political communication effect

Macro Level Causal Relationships. Economic conditions are expected to influence two macro-level variables; levels of publicity about the economic conditions (*path a*), and levels of political activity relating to economy (*path b*). First, *path a* is a reflection of news production logic and an expression of people's rationality. When the economy falters, journalists pay more attention to the problem and set economic issues high on the agenda. In contrast, if the economy is running smoothly, less journalistic attention will be diverted to it. News by definition is oriented toward problems more than achievements and therefore a negativity bias is inevitable because of its supposed "surveillance" function (e.g., Shoemaker, 1996). As former-President Richard Nixon observed: "For the press, progress is not news – trouble is news."³ More specifically, studies focusing on economy news coverage find that the media tend to be skewed toward negative news (Fogarty, 2005; Harrington, 1989; Soroka, 2006). Harrington's

³ Quoted in William Safire, "The press is the enemy: Nixon and the media," New York, 27 January, 1975, p.44.

(1989) study on network news suggests that the average amount of coverage devoted to unemployment, inflation, and GNP growth is significantly higher when the U.S. economy is ailing than when it is rising. Quite similarly, Goidel and Langley (1995) examined the *New York Times* and concluded that positive economic coverage bears no relationship with economic reality, while negative coverage correlates significantly with different economy indicators. In short, a declining economy produces high levels of negative economic coverage in the news media during an election. Therefore, the following hypothesis is offered.

Hypothesis 1: The amount of news media coverage of the economy during an election is negatively correlated with GDP growth. Media coverage of the economy will be higher in years when GDP growth is relatively low.

Second, *path b* shows how the problem of economy is related to political activity. Politicians have a vested interest in addressing the needs, concerns, and problems of the nation. A rational political actor responds to economic problems by adjusting corresponding policies (Erikson, MacKuen, & Stimson, 2002) or at least expresses concerns toward it. Presidential candidates frequently communicate their economic issue stance to the nation if the electorate perceives it as an urgent issue. The intensity of political activity (e.g., speeches, policy making, campaigning, etc.) will further heighten the salience of the economy in press coverage to the extent that news media routinely follow government official sources (Sigal, 1973; Tuchman, 1978). This is manifested by a reciprocal loop between media publicity about the economy and the amount of political activities addressing the economy (*path c*). Although the advancement in technology has generally liberated journalists from relying on official sources, Livingston and Bennett (2003) suggest that gatekeeping is still prevalent. Therefore, a bad economy leads to both journalistic attention and political elites'

responses, and that media salience and political activity reinforce each other in a reciprocal fashion.

Finally, as the agenda setting theory (e.g., McComb & Shaw, 1972) predicts, news media's issue agenda is usually translated into public agenda. Specific to the issue of the economy, Behr and Iyengar (1985) find that the level of public concern about economic issues is associated with television news coverage. Furthermore, Hester and Gibson (2003) test the second-level agenda-setting model in the context of economic news coverage. Their results show that the salience of negativity in news content is closely related to the consumers' evaluation of current economic conditions. If the news media and politicians signal the negative condition of the economy to the nation, voters' collective perception toward the economy will be accordingly influenced and negative impression toward the economy will prevail (*path d* and *path e*). Hence the following hypothesis is proposed.

Hypothesis 2: Voters' perception toward the economy at a collective level (macro-level motivation) is positively correlated with GDP growth. If the economy is bad, then the electorate will have a negative perception toward the economy.

For instance, the economy has been one of the most salient issues in the 2008 presidential election. The reality of the economy suggests high inflation, widespread foreclosure, and a severe breakdown in the financial sector. Subsequently, both presidential candidates place the issue of the economy on their campaign websites⁴ as one of the top five issues about which they wish to inform their voters. As a result, various polls⁵, including polls conducted by Newsweek, CBS News/New York Times, and Fox News/Opinion Dynamics, among others, unanimously find that the economy is a top issue that voters cared most in the 2008 election.

⁴ <http://www.johnmccain.com/Informing/Issues/> and <http://www.barackobama.com/issues/>

⁵ <http://www.pollingreport.com/prioriti.htm>

These relationships are exogenous to an individual's learning because it appears sensible to assume that how much political knowledge citizens possess can hardly have a direct impact the country's economy.

Cross-Level Causal Relationships. Although numerous theories try to describe how voters make their decision, the impact of economic conditions on voters' behavior has been at the forefront of the voter rationality debate in political science. For instance, some scholars highlight the role of past government performance (Fiorina, 1981), whereas others emphasize prospective thinking, or voters' expectations of the future economy (Erikson, MacKuen, & Stimson, 2002). Given the close relationship between the national economy and one's daily life (Popkin, 1991), it is at least reasonable to expect that citizens will react to it in predictable ways.

People's perception of economic conditions is partly prompted by media messages and political activities covered by the news. The perception toward the economy at a collective level can be conceptualized as a macro-level learning motivation, which can also influence voters' motivation to learn at an individual level. Both rationality-based and emotion-driven action can play a role in this process. Simply put, the surveillance system will remind voters about what is going wrong when the media carry widespread negative coverage about economic conditions and when political actors are striving to address the issue (*path f*). Subsequently, either by the mechanism of cognitive calculus or heightened anxiety, voters will be motivated to learn more about politics to defend their personal interests by exposing themselves to available news outlets (Marcus, Neuman, & McKuen, 2000).

Hypotheses 3: There is a negative correlation between people's perception toward the economy and individual's interest in a presidential election.

Micro Level Causal and Moderating Relationships. How news use is connected to political knowledge at an individual level is a heavily researched topic. To briefly reiterate, there are three noteworthy paths in the model that explain political knowledge gain. First, *path g* specifies the relationship that motivated voters are more likely to expose themselves to the news media during a campaign. Motivation is the prime driving force for news information exposure and attention. As noted earlier, the existing literature on news learning underscores the motivation function. When motivated, voters are more likely to use news media to make a good decision rather than a quick decision. Second, *path h* denotes the relationship between news media use and political knowledge. Although inconsistent findings persist, media scholars have reached an overall judgment that news media do help citizens learn about politics (Chaffee & Frank, 1996). Therefore the following hypotheses are proposed.

Hypotheses 4a: Across all election years, individual learning motivation, as is indicated by an individual's interest in a particular presidential election, is positively related to newspaper use.

Hypotheses 4b: Across all election years, individual learning motivation, as is indicated by an individual's interest in a particular presidential election, is positively related to television news use.

Hypotheses 5a: Across all election years, newspaper use is positively related to political knowledge. The more an individual is exposed to newspaper, the higher political knowledge about the election he/she will possess.

Hypotheses 5b: Across all election years, television news use is positively related to political knowledge. The more an individual is exposed to television news, the higher political knowledge about the election he/she will possess.

Third, and more importantly, *path i* speaks to the fact that motivation can be a moderator, mitigating knowledge gaps between people with higher and lower socioeconomic status when they are motivated to be exposed to political information (e.g., Kwak, 1999). Alternatively put, learning motivation can reduce the correlation between education and knowledge across different levels of news media use. It should be clarified that knowledge gap here does not simply mean difference in political knowledge across social segments (Eveland & Scheufele, 2000). Knowledge gap refers to the interaction between news media exposure and socio-economic status (usually represented by education level) influencing political knowledge.

Cross-Level Moderating Relationships. The last set of relationships in the model is the cross-level moderating relationships between macro-level and micro-level variables. Negative perception toward the economy at a collective level will alleviate the political knowledge gap suggested by the interaction between education and news media exposure. This relationship can be primarily explained by the fact that negative perception toward the economy at a collective level is largely a reflection of media publicity of the economy.

Media publicity, through voters' perception toward the economy, can potentially moderate the news learning effects at an individual level (*path j*). In her comprehensive meta-analysis of the knowledge gap studies, Gaziano (1983) emphasized that high media publicity tends to close the knowledge gap (see Greenberg, 1964), and suggested that "future knowledge gap research should systematically vary media publicity." (p.475) Delli Carpini, Keeter and Kenamer (1994) examined the opportunity for learning. They surveyed two media markets: Richmond, the state capital of Virginia, where the media provide sufficient information concerning state politics, and the Washington D.C. metropolitan area, where the news media pay little

attention to state politics. Their finding suggests that media environment plays a fundamental role in determining citizens' knowledge about politics. Taking a different perspective, Holbrook (2002) focuses on the temporal difference of information resources in presidential campaigns. His analysis of the ANES data from 1976 to 1996 shows that the knowledge gap across the electorate, as was indicated by the interaction between education and news media exposure, can be alleviated by campaign events that provide substantive information, with presidential debates in particular. Jerit, Barabas and Bolsen (2006) argue that education, the strongest predictor of political knowledge, plays a less important role than perceived when compared to an information environment. They conclude that higher levels of media publicity elevate knowledge for everyone, except for those who acquire their information from newspapers. In short, plenty of evidence suggests that high levels of media information about an issue will tend to close the knowledge gap. Therefore, it is reasonable to argue:

Hypotheses 6a: Voters' perception toward the economy moderates the relationship between newspaper use and political knowledge. The positive relationship between newspaper use and political knowledge will be stronger as perceptions toward the economy are more negative.

Hypotheses 6b: Voters' perception toward the economy moderates the relationship between television news use and political knowledge. The positive relationship between television news use and political knowledge will be stronger as perceptions toward the economy are more negative.

Hypotheses 7: Knowledge gap indicated by the interaction between education and news media use in predicting one's political knowledge will be less likely to be observed as perceptions toward the economy are more negative.

It should be clear that not all of the paths in the model are directly testable with available empirical data and are of high relevance to theme of this study. Some of the macro-level and micro-level relationships have been tested repeatedly in previous studies. The main focus of the dissertation study is the cross-level relationship between economic conditions and news learning effects. In the next section, I will describe the data used for this study and the method for data analysis.

CHAPTER 6

METHODOLOGY

6.1 Data Description

The data for this study come from the *American National Election Studies* (ANES) survey. Started in 1948, the ANES survey is now a collaboration of Stanford University and the University of Michigan, funded by the National Science Foundation. The study is a national survey of American voters which contains a large battery of questions related to presidential elections.

There are three reasons to use ANES data for the current study. First, ANES surveys contain a large variety of election related variables, in addition to measures tapping people's news media exposure. Most of the key variables in the hypotheses are covered by the ANES study. Second, surveys conducted by the ANES use face-to-face interviewing (for most of the election years) of a nationally representative sample of adults with a high response rate. This can help prevent biased samples from contaminating the results of the study. Most critically, the advantage of using ANES data lies in its data longevity: the ANES conducted well-structured surveys during presidential elections since 1948. As is mentioned on its website, "The longevity of the ANES time-series greatly enhances the utility of the data, since measures can be pooled over time, and both long-term trends and the political impact of historical events can be identified."⁶ Capitalizing on this particular nature of the data, the current study will utilize data from 14 time points: 1952, 1956, 1960, 1964, 1968, 1972, 1976, 1980, 1984,

⁶ <http://www.electionstudies.org/overview/overview.htm>

1988, 1992, 1996, 2000, and 2004⁷.

6.2 Concepts, Variables and, Empirical Operationalizations

Political Knowledge. There are two batteries of questions in the ANES that can be considered reflecting people's understanding of politics. The first set of questions relates to candidates' issue position (e.g., Eveland & Scheufele, 2000). The reason that these questions could be used to represent the structural side of political knowledge is that correctly answering these questions requires a basic understanding of ideology (Zaller, 1992). The other set of questions asks reasons for vote choice (providing reasons for why they like or dislike a candidate) (e.g., Brians & Wattenberg, 1996; Holbrook, 1999; 2002). Articulating reasons for liking/disliking a candidate demands some degree of understanding of the characteristic and issue stances of the candidates.

When analyzing the ANES 2004 data set, Dalrymple & Scheufele (2007) use general political knowledge questions for measuring conceptual differentiation, and vote choice and issue stance questions for conceptual integration. Considering the original operationalizations proposed by Neuman (1981), the labels used by Dalrymple and Scheufele (2007) are somewhat farfetched. But overall, it makes sense to consider issue position and vote choice questions as demanding more substantive knowledge of politics. Grounded upon the above considerations, two sets of political knowledge operationalizations will be used in the study: candidate issue stance questions and like-dislike questions.

Issue stance knowledge questions are available since 1972. These questions require respondents to place two (in some years three) presidential candidates' issue positions on a scale ranging from a conservative stance to a liberal one. In most if not all cases, a Republican candidate's issue stance will incline toward conservatism and the

⁷ The 1948 survey does not contain media exposure variables and so is excluded from the current study.

reverse will be true for a Democrat candidate. Although it is relatively difficult to judge the correctness of the answers to these questions, positioning a liberal candidate to the left of a conservative candidate can be an effective rule of deciding knowledge scores (Zaller, 1992). One big problem with the use of issue knowledge in ANES is that the content and quantity of issue stance questions vary across different surveys. With this in mind, I will restrict my hypothesis testing to a question that has been measured consistently across years. The ANES data started to ask an issue stance question related to government spending since 1984:

“Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. Suppose these people are at one end of the scale at point number 1. Other people feel it is important for the government to provide many more services even if it means an increase in spending. Suppose these people are at the other end, at point 7. And of course, some other people have opinions somewhere in between at points, 2, 3, 4, 5, or 6. Where do you place [candidate name] on this scale?”

To use this question as an indicator for political issue knowledge has two advantages. First, as alluded to earlier, it is measured consistently across six election years. Second, its relevance to the economy can help test whether information environment plays a role in terms of informing voters of candidates’ issue stance on the economy. Admittedly, this operationalization will reduce the power of statistical significance test since only six surveys include this question. However, even if this model failed to lend support to my hypotheses, I can further my hypotheses testing through using another political knowledge measure with high consistency across years: like-dislike knowledge question. The purpose of using two knowledge measures is to triangulate my hypothesis testing. If a similar result pattern emerges, then the results’

confidence level can be enhanced.

Like-dislike knowledge questions were included in the ANES studies since 1952. Respondents are asked to list up to five reasons that they like and dislike the candidates. This measure has been used in many studies as a surrogate of political knowledge (e.g., Brians & Wattenberg, 1996; Holbrook, 1999; 2002). The percentage number of the average likelihood of articulating reasons will form an index of their political knowledge (the number of reason for each respondent divided by the maximum possible responses and then multiplied by a hundred).

The grand mean of government spending issue knowledge from six election years is 68.96 with a standard deviation of 46.27. This shows around 70 percent of the voters correctly perceived the government spending issue stances of the presidential candidates. The grand mean of like-dislike knowledge from fourteen election years is 24.18 with a standard deviation of 16.21, meaning that on average voters offered at least one reason in explaining why they like and dislike a particular candidate. The means of the two dependent variables by year are tabulated in Table 6.1 (see Appendix A for variable codes from ANES).

Year	Government Spending Issue Knowledge		Like-Dislike Candidates Knowledge	
	Mean	S.D.	Mean	S.D.
1952			21.69	14.30
1956			23.11	14.21
1960			22.48	14.39
1964			24.87	13.92
1968			26.31	14.81
1972			21.95	14.49
1976			22.98	15.00
1980			24.30	15.90
1984	77.37	41.85	26.01	17.83
1988	70.51	45.61	22.50	17.92
1992	72.75	44.53	27.36	17.96
1996	68.32	46.54	26.25	18.23
2000	56.57	49.58	22.18	16.99
2004	67.72	46.78	24.91	16.59

Table 6.1 Government spending issue and like-dislike candidates knowledge by year

News Media Use. News media use will be operationalized as the amount of news content one is exposed to. For the reasons presented in Chapter II, the current study only adopts exposure measurements to construct news use indicators. News outlets included in this study will be newspapers and television news. Non-traditional news channels or new media outlets will not be included because they are not available until recent years. Limited by the data available at hand, this study adopts a dichotomous measure of television news use and newspaper use. For instance, respondents were asked repeatedly in different surveys whether they have been exposed to any campaign related information from newspapers and television network news. Two typical questions will be “*Take newspaper for instance, did you read you the campaign in any newspapers,*” and “*how about television: did you watch any programs about the campaign on television?*” The grand mean for television news use and newspaper reading are .83 (S.D.=.38) and .70 (S.D.=.46), based on a 0 vs. 1 coding

scheme. On average, approximately eighty percent of the voters have been exposed to campaign related information from television news and around 63 percent of them read newspapers for campaign information. The means of the two variables by year are presented in Table 6.2 (see Appendix B for variable codes from ANES).

Year	Television News Use		Newspaper Use		Campaign Interest	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
1952	.51	.50	.79	.41	2.08	.81
1956	.74	.44	.69	.46	1.99	.78
1960	.88	.33	.80	.40	2.15	.77
1964	.89	.32	.76	.42	2.15	.79
1968	.89	.31	.74	.44	2.18	.75
1972	.88	.32	.57	.50	2.00	.76
1976	.89	.31	.74	.44	2.17	.74
1980	.86	.35	.71	.45	2.17	.72
1984	.86	.35	.77	.42	2.04	.73
1988	.88	.33	.64	.48	2.03	.73
1992	.89	.32	.65	.48	2.22	.72
1996	.79	.41	.58	.49	2.04	.71
2000	.83	.38	.59	.49	2.27	.70
2004	.86	.35	.70	.46	2.26	.71

Table 6.2 Television news use, newspaper use, and campaign interest by year

Motivation. Individual level motivation to learn about politics is measured by campaign interest, the extent to which an individual is interested in a particular presidential election. A usual form of campaign interest is measured by the question: “*Some people don’t pay much attention to the political campaigns. How about you, would you say that you have been/were very much interested, somewhat interested, or not much interested in following the political campaigns this year?*” This variable is consistently measured on a three-point scale across all ANES surveys. The grand mean of campaign interest is 2.12 (S.D.=.75). As was shown in Table 6.2, the group mean of campaign interest varies from 1.99 in 1956 to 2.27 in 2000.

Economic Conditions. Economists and political economists have used many different measures to quantify the performance of the economy, such as GDP growth, real income levels, unemployment, and inflation (Hibbs, 2006; Lewis-Beck, 1988). As noted earlier, I will use GDP growth as an indicator of the economy in this study. The data for annual GDP growth are obtained from *U.S. Department of Commerce* (2008). Economic condition during the election is operationalized by averaging the annual GDP growth rates of the election year and the preceding year. People's perception toward the economy is usually accompanied by a long-term memory. During an election, retrospective voters not only evaluate the current status quo of the economy but the past economy as well.

The average GDP growth from 1952 to 2004 is around 3.32%, with a standard deviation of 2.21%. Table 6.3 shows the values of the GDP growth rate by year. According to Table 6.3, the U.S. economy has experienced two serious declinations in the past sixty years: the early 1980s and 1990s. The 1980 and 1990 elections had resulted in the rise of two charismatic presidents: Ronald Reagan and Bill Clinton, who helped turn the national economy back to growth. In addition to the major recessions, there are years of fast economic growth, for example, 1964 and 1984. Significant variations in the status of the economy provide the current study with data at the macro level that can be used to test the proposed hypotheses, which link the variation in the economy to various individual behavioral indicators.

Year	GDP Growth rate (Averaging two years)	Media Publicity (<i>New York Times</i>)	CSI (Third Quarter)
1952	3.80	557	86.20
1956	4.50	639	99.90
1960	4.80	576	97.20
1964	5.10	529	100.60
1968	3.65	311	92.40
1972	4.35	347	95.20
1976	2.55	629	89.70
1980	1.50	889	67.80
1984	5.85	339	98.90
1988	3.75	344	96.00
1992	1.55	414	76.10
1996	3.10	309	94.90
2000	4.10	364	107.50
2004	3.05	410	95.60

Table 6.3 GDP growth rate, media publicity, and CSI

Media Publicity about the Economy. Media publicity about the economy is usually intertwined with politicians' economy related activity since presidential candidates need to communicate their ideas through the news media. With this assumption, I will only quantify news media coverage of the economy and use it as a surrogate for political activity. Some studies (e.g., Jerit & Barabas, 2006) quantify media environment by examining *Associated Press* (AP) stories. In this study, publicity about the economy will be operationalized by print media coverage frequency. The reason for using real media outlets rather than wire services is that stories from wire services might not be translated into real coverage, which would lead to a biased representation.

Newspaper coverage frequency of the economy will be approximated by the number of newspaper articles mentioning the economy in *The New York Times*, which is recognized as a prime print source of agenda-setting (Gitlin 1980) and therefore is considered to be a reliable proxy for constructing a media publicity indicator. A newspaper article will be qualified as covering the economy if the lead paragraph of a

newspaper article contains the terms “economy” or “economic” between January 1st and the Election Day in a particular election year. On average, around 475 pieces of news about the economy was found each year (S.D.=168.39) during campaign period (see Table 6.3 for details).

Perception toward the Economy. Voters’ perception toward the economy is measured by the consumer sentiment index (CSI), an index widely used by political economists (e.g., Stimson, 2004) when studying the relationship between voting results and people’s concern about the economy. It was firstly published by the University of Michigan and is now used by the *U.S. Department of Commerce and Bureau of Economic Analysis*. The index directly speaks to the psychology of individuals. The index is grounded upon three aspects of consumer psychology: a) at an individual level, how consumers view prospects for their own financial situation; b) at a collective level, how they view prospects for the general economy over the near term; and c) from a longitudinal perspective, their view of prospects for the economy over the long term. The index is calculated based on five survey questions and normalized by the 1966’s base period of total. For details of the five survey questions and the formula of deriving CSI, see Appendix C. The data for CSI was obtained from the University of Michigan website⁸. The earliest available data on CSI is 1952, which nicely dovetails the ANES data used in this study.

The CSI index was measured quarterly. Since the most intensive campaign period is the time window leading toward the election, third quarter CSI index was used to represent voters’ perception toward the economy during election time. Note that although CSI reflects GDP growth, the correspondence between the two variables is by no means perfect. First, GDP growth rate is a relatively objective and factual measure

⁸ <http://www.sca.isr.umich.edu/>

while CSI is an aggregate level variable indicating people's subjective evaluation of the economy, which can be subjected to many idiosyncratic influences. More importantly, CSI is not a pure assessment of the past economy, but containing items forecasting future economy: three out of five items ask respondents to forecast future economy performance. For example, "Now looking ahead--do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?" "Now turning to business conditions in the country as a whole--do you think that during the next twelve months we'll have good times financially, or bad times, or what?" and "Looking ahead, which would you say is more likely--that in the country as a whole we'll have continuous good times during the next five years or so, or that we will have periods of widespread unemployment or depression, or what?"

Perception toward the economy was also measured at an individual level in ANES surveys since 1980. Respondents were asked: "Would you say that over the past year the nation's economy has gotten better, stayed about the same, or gotten worse?" Upon receiving a non-neutral answer, a follow-up question was asked: "would you say that economy has gotten much better, somewhat better, somewhat worse, or much worse?" Combining answers from these two questions, an index of perception toward past economy was formed on a five-point scale ranging from -2 to 2, where -2 represents much worse, 2 represents much better, and 0 represents to stay about the same. An index for perception toward future economy was constructed based on these two questions: "Do you expect the economy to get better, get worse, or stay about the same?" and "Do you expect the economy to get much better, somewhat better, much worse, or somewhat worse?" The means and standard deviations by year are summarized in Table 6.4 and the grand means for the two variables are -.25 (S.D.=1.12)

and -.05 (S.D. =1.10) respectively.

Year	Past Economy		Future Economy	
	Mean	S.D.	Mean	S.D.
1952	--	--	--	--
1956	--	--	--	--
1960	--	--	--	--
1964	--	--	--	--
1968	--	--	--	--
1972	--	--	--	--
1976	--	--	--	--
1980	-1.22	.83	-.07	1.01
1984	.18	1.05	.11	.97
1988	-.19	.90	.02	1.35
1992	-1.01	.82	-.97	1.36
1996	.25	.91	.13	.74
2000	.23	1.15	.05	.85
2004	-.38	1.11	.22	.93

Table 6.4 Perception toward past and future economy

Control Variables. There are two types of control variables in this study. The micro-level control variables will be the four basic demographic variables: age, gender, income, and education. They were measured in every ANES study with high consistency. But one potential problem with regard to the income measure is that income brackets vary across years. To solve this problem, the variable was group-mean centered within a given year. Additionally, two societal level control variables were included. First, race closeness indicates whether candidates' vote shares in a particular election are close to one another. Race closeness is calculated by dividing the popular vote earned by the runner-up candidate by the popular vote earned by the winning candidate. The possible range of this number is from 0-1, where zero indicates a race extremely low in closeness (i.e., a landslide). Second, the presence of a strong third party candidate was controlled. It seems that there were four strong third-party or independent candidates appeared during the presidential elections in the past five

decades: George Wallace had won 13.5% of the popular vote in the 1968 election, John Anderson 6.6% in 1980, Ross Perot 18.6% in 1992, and Ross Perot again 8.4% in 1996. An ordinal variable will be created accordingly: If a third party or independent candidate wins 5%-10% of the popular vote in a given election, the ordinal variable was coded as 1. If a third party or independent candidate wins more than 10% of the popular vote in a given election, the variable was coded as 2. A zero was assigned to the variable otherwise.

The reason to control for these two variables is that both of them can influence voters' political knowledge. In a highly competed presidential race, more attention will be given to the campaign and therefore, voters in general will have higher levels of political knowledge. The relationship between political learning and the presence of a strong third party candidate seems to be more complicated. First, it is possible that in a race which contains a strong third party candidate, voters' political knowledge of the two major party candidates will become lowered because a part of their attention will be diverted to the third party candidate. Second, it is also possible that the presence of the third-party candidate would increase people's overall interest in the campaign and therefore voters will learn more about different candidates.

6.3 Data Analysis: Multilevel Modeling (Linear Hierarchical Modeling)

Exploring contextual theoretical problems can benefit from the use of multilevel analytical tools. Although in other social science disciplines such as political science (Steenbergen & Jones, 2002) and sociology (DiPrete & Grusky, 1990), multilevel modeling (MLM) is more prevalently used, there are calls advocating MLM techniques in the field of communication (e.g., Hayes, 2006; Pan & McLeod, 1991). In echoing these calls, the current study will utilize multilevel analysis to investigate the impact of economic conditions on political learning through news media. The method

of multilevel modeling matches well with a dynamic and ecological view of the relationship between media use and political information acquisition.

Fourteen survey data sets from ANES were compiled into a single data file. Approximately twenty five thousand individuals were included in the analysis. These individuals are nested within fourteen election years, with each election containing 1371 to 2485 respondents. For most of the years, all respondents were included without deletion, but there are several ANES surveys adopted a split-ballot technique which leaves a large number of respondents with missing values on several key variables this study is investigating. In the finalized data set, GDP growth, media publicity, and CSI, along with race closeness and the presence of a strong third candidate, are treated as second level variables characterizing each election (level-2). Campaign interest, news media use, political knowledge, and perception toward past and future economy, along with other control variables are treated as individual level variables (level-1). Level-2 variables do not vary between the level-1 cases nested under the same level-2 unit whereas level-1 variables vary between level-1 cases nested under the same level-2 unit (Hayes, 2006). The strength of a multilevel data set lies in its capability of taking into account internal homogeneity within groups. Each respondent nested under the same election is under the influence of the unique characteristics of a single election. Hence, pooling all of them together without discrimination will seriously violate the assumption of independence for linear regression (Bliese & Hanges, 2004; see Marcus, Neuman, & McKuen, 2000 for their pooled analysis of ANES data).

One of the most intriguing problems in MLM is the decision of setting fixed and random components (Snijders & Bosker, 1999). The current study's decisions on this matter are informed by both theoretical concerns and empirical evidence. First, the intercept in all models are estimated as a random effect because there might be some

unmeasured factors which could influence the group means of news media use or political knowledge. Second, all key independent variables of interest are set to be random for the purpose of emphasizing contextual variation. For example, news media's impact on people's political learning might vary from election to election. The relationship between the two level-1 variables differs across level-2 units. However, in case the variance of random component is not significantly different from zero, particularly when the variance is completely accounted for by existing predictors in the equation, a new model will be estimated constraining the corresponding effect to be fixed. The design of the current study features a large number of first level cases and a small number of second level cases. When level-2 unit involves presidential election, sample size inevitably will be an issue. There have been only fourteen presidential elections in the U.S. in the past fifty years, which leads to the question of statistical power (e.g., Hox, 2002, Snijders & Bosker, 1999). Ideally, many level-1 units nested under many level-2 units are desired. Given the current data restraint, REML (restricted maximum likelihood) instead of ML (maximum likelihood) estimation method will be used as Snijders and Bosker (1999) recommended that when the number of level-2 unit is small, REML is preferred.

For H1, H2, and H3, hypotheses that are referring to the relationships among election level variables, Spearman's rank correlation test will be performed. Spearman's rank correlation test is a non-parametric measure of correlation, and therefore will be more adequate for a small sample size which does not conform to normal distribution. For H3, in addition to Spearman's rho test, OLS regression will be conducted because data are also available at the individual level. For H4, H5, and H6, each hypothesis testing will take three steps. First, the relationships among variables will be tested with OLS regression for each election separately. This method, though

low in statistical power, is meant to present a general picture of how effects could vary across elections, which justifies the need for MLM. Second, a null model will be estimated, with ICC (intra-class correlation) being quantified. A null model in multilevel analysis is similar to one-way ANOVA analysis and ICC represents the proportion of variance attributable to between group differences. In the example of political knowledge, intra-class correlation gives the proportion of variance accounted for by election differences relative to the political knowledge difference between individuals within a single election. Thirdly, predictors will be added into the null model step by step, firstly individual level predictors and then election level predictors.

Finally, the ANES surveys use stratified probabilistic sampling method, which could produce a representative sample of the nation. However, it is possible that sampling error could lower the quality of the data and thus weighting becomes desirable. Results from descriptive analysis of the four key demographic variables (i.e., age, gender, education, income) did not reveal any systematic and big differences between weighted and unweighted samples (see Table 6.5). In particular, there is almost no gender difference between weighted and unweighted samples. And variations in the means of age, education, and income are small. Besides, not all ANES survey data sets provide weighting variables (e.g., 1952, 1956, and 1972), which makes systematic treatment less possible. Based on these considerations, all the analyses will be performed without sample weighting.

	Unweighted Means				Weighted Means			
	Gender	Age	Education	Income	Gender	Age	Education	Income
1952	1.54	44.81	2.64	4.15	--	--	--	--
1956	1.55	44.14	2.74	4.16	--	--	--	--
1960	1.55	48.44	3.06	4.65	1.55	46.90	3.09	4.61
1964	1.56	45.85	2.92	4.88	1.55	46.11	3.04	5.14
1968	1.57	46.51	3.20	6.73	1.56	46.59	3.25	6.90
1972	1.57	44.38	3.32	9.27	--	--	--	--
1976	1.58	45.62	3.51	10.09	1.58	44.80	3.51	9.96
1980	1.56	44.54	3.74	13.05	--	--	--	--
1984	1.56	44.40	3.88	10.70	--	--	--	--
1988	1.57	45.01	3.61	11.80	--	--	--	--
1992	1.54	45.54	3.82	13.15	1.54	45.61	3.79	13.08
1996	1.55	47.54	4.10	14.03	1.55	47.43	4.04	13.87
2000	1.56	47.21	4.29	5.76	1.56	45.55	3.96	5.82
2004	1.53	47.27	4.30	13.95	1.51	46.54	4.05	14.19

Table 6.5 Means of four demographic variables (unweighted vs. weighted)

CHAPTER 7

RESULTS

7.1 Descriptive Analysis

Before proceeding onto hypothesis testing, I will first present some descriptive analyses of the key variables in my model. The analysis will focus on the historical movement of a series of aggregated individual level variables and election level variables. The analysis serves as a prelude to formal hypotheses testing with HLM, aiming to depict a general picture of how people's political knowledge, campaign interest, and news media use habits evolved over time during the past several decades and how these indicators are likely to co-vary with economic conditions.

Political Knowledge. Figure 7.1 plots out the historical trend of two political knowledge indicators: people's answers to like-dislike candidate/party questions and people's judgment of candidate's issue stance on government spending. One notable result is worth to mention. A careful examination of the two series will find that the two indicators actually wane and wax simultaneously. In 1988, 1996, and 2000, both indicators decreased relative to previous years while in 1992 and 2004, both went up. To some extent, this piece of evidence helps cross-validate the two measurements.

Figure 7.1 Average political knowledge level series

News Media Use and Motivation. Figure 7.2 plots out the historical trend of people's news media use and campaign interest during the elections. Newspaper consumption rate has been declining slowly over the years. However, this trend does not exhaust the entire pattern. As could be observed from the graph, people's aggregate level of campaign interest seems to accompany the ebb and flow of newspaper reading. In a year when the electorate's interest was highly aroused by the campaign, there will be more newspaper consumption. But this relationship is not statistically significant ($\rho=.109$, $p=.710$ $n=14$). In contrast, television news consumption exhibits little variation. Television news use was gaining momentum during the 50s but quickly showed a ceiling effect. Around 90 percent of the electorate was exposed to campaign information during recent elections. The correlation coefficients are not significant between television news use and campaign interest ($\rho=.290$, $p=.314$, $n=14$).

Figure 7.2 Average news media use and campaign interest series

GDP Growth, CSI, and Media Publicity. Figure 7.3 plots out the historical trend of GDP growth rate, consumer sentiment index (CSI), and media publicity about the economy from 1952 to 2004. Two interesting patterns emerge. First, there seems to be a strong covariance between GDP growth and CSI. When the economy goes bad, individual's confidence in the economy decrease accordingly. Second, media publicity about the economy seems to go hand in hand with economic conditions as well, but with a negative sign. Two examples will illustrate this. In the 1980 contest between Democrat incumbent Jimmy Carter and his Republican opponent Ronald Reagan, when a worsening economy (GDP growth=1.5; CSI=67.8) was coupled with the Iran hostage crisis, the amount of media coverage on economic issues reached a historical high with 889 pieces of economy news stories in the *New York Times* during the campaign period. In sharp contrast, in the following election between Reagan and Mondale, when the Reagan administration experienced a strong economic recovery from the recession of

1981-1982 (GDP growth=5.85), confidence in the economy was restored (CSI=98.9) and the news media stopped printing economic stories as frequently (number of *NYT* stories on the economy=339).

Figure 7.3 GDP growth, CSI, and media publicity series

Economic Condition and Political Knowledge. Figure 7.4 juxtaposes economic indicators with voters' average political knowledge indicators. It could be observed that economic indicators, in general, have a negative relationship with political knowledge. To take CSI and government spending issue knowledge as an example, in the 2000 election between Bush and Gore, people's confidence in the economy reached a historical high while their judgment about the two candidates' issue stance on government spending was not impressive: only 56.57% of the voters answered correctly on this item. In the following election between Bush and Kerry, voters' rate of correct judgment bounced back with almost a 20% increase when the economy slid

down. A similar pattern could be found between GDP growth and like-dislike knowledge indicators, though less prominent in the graph.

Figure 7.4 Economic Condition and Political Knowledge Series

Economic Condition and Campaign Interest. Figure 7.5 illustrates the relationship between economic conditions and aggregated campaign interest. Since voters' campaign interest has relatively less variance across the past fourteen elections than other indicators, it is not very clear how it moves with GDP growth. However, when being linear transformed by a multiplier of 50 (see interest* in Figure 7.5), a weak negative relationship emerges between CSI and campaign interest, albeit the correlation between them is not significant ($\rho = -.181, p = .536$).

Figure 7.5 Economic condition and campaign interest series

Economic Condition and News Media Use. Figure 7.6 presents the relationship between economic conditions and news media use indicators. Television news use is not very much influenced by economic indicators. In contrast, newspaper reading, when linear transformed with a multiplier of 100 (see newspaper* in Figure 7.6), seems to have a negative relationship with CSI. When the electorate perceives the economy to be in a bad shape, voters are more likely to get political information from newspapers.

Figure 7.6 Economic condition and news media use series

Overall, a series of descriptive analyses of the key variables reveals that there are consistent and meaningful patterns behind people's news consumption, political learning and media's coverage frequency in response to the economy. When the economy falters, the media tend to react with more news coverage on economic issues, and the electorate is more interested in the campaign, more likely to consume news media, and subsequently to learn more. With these pictures about the macro-level movement of economic and political communication indicators in mind, I will test the six hypotheses proposed earlier.

7.2 Hypotheses Testing

Hypothesis 1 predicted that the amount of news media coverage of the economy during an election is negatively correlated with GDP growth. Media coverage of the economy will be higher in years when GDP growth is relatively low. Hypothesis

2 proposed that voters' perception toward the economy at a collective level (macro-level motivation) is positively correlated with GDP growth. If the economy is deteriorating, then the electorate will have a negative perception toward the economy. As has been discussed above (see Figure 7.3), there seems to be a positive relationship between GDP growth and CSI and a negative relationship between GDP growth and media publicity about the economy. However, to ascertain the significance and strength of the relationship, statistical significance tests have to be performed. A bivariate Spearman's rank correlation test shows that there is a robust correlation between GDP growth and CSI ($\rho=.732, p<.01, n=14$), suggesting a strong association between people's perception of the future economy and the past GDP growth performance. The relationship between media publicity and GDP growth is not statistically different from zero ($\rho=-.134, p=.65, n=14$). CSI is negatively related to media publicity but again the no statistical significance was achieved ($\rho=-.160, p=.548, n=14$). Therefore, H1 was not supported but H2 was supported.

H3 proposed that there is a negative correlation between people's perception toward the economy and individual's interest in a presidential election. As has been presented in the descriptive analysis section, there seems to be a weak negative relationship between voters' collective perception toward the economy (CSI) and their campaign interest. This relationship can be further probed in the form of an analysis at the individual level. The regression coefficients of the impact of people's perception toward the economy on their campaign interest were tabulated in Table 7.1, paneled by year. The results show rather complicated patterns. It could be said that perceptions of past economy and future economy are different predictors of campaign interest. For example, in 1980, negative perception of past economy was related to high campaign interest but positive perception toward future economy was related to high campaign

interest. Besides, both positive economy and negative economy can drive campaign interest under different circumstances. For instance, in 1996 perceptions of past economy is positively linked with campaign interest. It seems no consistent patterns could be identified, and only in a handful of years, perception toward the economy is negatively related. Therefore, H5 is not universally supported.

Year	Perception of Past Economy and Campaign Interest	Perception of Future Economy and Campaign Interest
1952 (N=1471)	--	--
1956 (N=1657)	--	--
1960 (N=1072)	--	--
1964 (N=1591)	--	--
1968 (N=1381)	--	--
1972 (N=1056)	--	--
1976 (N=1731)	--	--
1980 (N=1098)	-.066*	.058#
1984 (N=1806)	.042#	.021
1988 (N=1670)	.002	.062*
1992 (N=1172)	-.078*	-.033
1996 (N=1524)	.104***	.080**
2000 (N=1255)	.035	-.031
2004 (N=986)	-.008	.043

Note: All entries are partial correlation coefficients controlling for gender, age, education, and income. # $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 7.1 Individual level relationships: perception of the economy and campaign interest

H4a and H4b predicted that in all election years, individual learning motivation, as is indicated by an individual's interest in a particular presidential election, is positively related to newspaper use and television news use. This hypothesis can be tested with two approaches outlined in the method section. First, news media use could be regressed on campaign interest at an individual level across different elections, controlling for gender, age, education, and income. As is shown by Table 7.2, the relationships between campaign interest and newspaper use are positive and significant

for all elections since 1952, although the size of the coefficients does vary ($\beta=.185\sim.323$, $p<.001$). The relationship between campaign interest and television news use exhibits a similar pattern, but the coefficients are of smaller sizes than those between newspaper use and campaign interest ($\beta=.104\sim.243$, $p<.001$).

Year	Campaign Interest and Newspaper Use	Campaign Interest and Television News Use
1952 (N=1471)	.185***	.104***
1956 (N=1657)	.246***	.228***
1960 (N=1072)	.287***	.155***
1964 (N=1591)	.203***	.184***
1968 (N=1381)	.222***	.187***
1972 (N=1056)	.230***	.192***
1976 (N=1731)	.261***	.239***
1980 (N=1239)	.313***	.301***
1984 (N=1718)	.195***	.243***
1988 (N=1396)	.263***	.159***
1992 (N=1563)	.316***	.213***
1996 (N=1160)	.287***	.218***
2000 (N=973)	.323***	.311***
2004 (N=700)	.308***	.228***

Note: All entries are partial correlation coefficients controlling for gender, age, education, and income. # $p<.10$ * $p<.05$ ** $p<.01$ *** $p<.001$

Table 7.2 Individual level relationships: campaign interest, newspaper use, and television news use

The previous approach has serious limitations in that multiple tests might increase the chances of committing Type I error and at the same time reduce statistical power. A better method to test H4 is to employ hierarchical linear modeling, nesting individual voters under different elections to account for internal homogeneity for voters interviewed during the same election. Table 7.3 exhibits results from three multilevel logistic regression models predicting newspaper use. Model 1 is a null model, whose result suggests there is a significant between-election variance in newspaper use. Model 2 added all level-1 predictors to the null model. This model allows year to year

variation in newspaper use and campaign interest effect, but fixes all demographic effects to be the same across elections. The ICC is .040, according to the formula from Snijders and Bosker (1999): $p = \left(\frac{\tau_{00}}{\tau_{00} + \pi^2 / 3} \right)$. That is to say, about four percent of the variance in newspaper reading could be attributed to the election level differences. In general, males, older adults, and people with higher socio-economic status are more likely to use newspapers to obtain campaign information. Most importantly, campaign interest is positively related to newspaper use ($\gamma_{50}=.865, p<.001$). Model 3 additionally controlled for several election-level variables, and the results from Model 2 were replicated. Interestingly, race closeness is positively related to newspaper use ($\gamma_{02}=2.935, p<.05$). Voters are more likely to obtain campaign information from newspapers when there is a close race between candidates. Moreover, GDP growth is positively associated with newspaper use ($\gamma_{03}=.659, p<.01$) while CSI is negatively associated with newspaper use ($\gamma_{04}=-.089, p<.01$). A good economy promotes newspaper consumption and a negative perception toward the economy increases newspaper reading.

		Model 1	Model 2	Model 3
Fixed Components				
Intercept	γ_{00}	.849***	-2.602***	.841
Election Level				
Third party	γ_{01}			-.237
Race closeness	γ_{02}			2.935*
GDP Growth	γ_{03}			.659**
CSI	γ_{04}			-.089**
Voter Level				
Gender	γ_{10}		-.293***	-.293***
Age	γ_{20}		.022***	.022***
Education	γ_{30}		.338***	.338***
Income	γ_{40}		.247***	.246***
Campaign Interest	γ_{50}		.865***	.869***
Variance of Random Components				
Intercept	τ_{00}	.136***	.830***	.493***
Campaign Interest	τ_5		.013***	.013***

Note: # $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 7.3 Multilevel logistic regression models predicting newspaper use

Table 7.4 presents results from three multilevel logistic regression models predicting television news use. The model configurations are the same as those predicting newspaper use. About eight percent of television news use's variance could be attributed to election level differences ($ICC=.088$). Females, older adults, and people with higher income are more likely to consume television news, but education is not a significant predictor. None of the second level variables are linked with television news use. However, campaign interest is significantly associated with television news use ($\gamma_{50}=.932$, $p < .001$), as was predicted by H4b. Overall, H4a and H4b are fully supported.

		Model 1	Model 2	Model 3
Fixed Components				
Intercept	γ_{00}	1.690***	-.482*	-.921
Election Level				
Third party	γ_{01}			.305
Race closeness	γ_{02}			-.300
GDP Growth	γ_{03}			.146
CSI	γ_{04}			.000
Voter Level				
Gender	γ_{10}		.010*	.096*
Age	γ_{20}		.005***	.005***
Education	γ_{30}		.009	.009
Income	γ_{40}		.294***	.294***
Campaign Interest	γ_{50}		.931***	.932***
Variance of Random Components				
Intercept	τ_{00}	.318***	.275***	.316***
Campaign Interest	τ_5		.063***	.064***

Note: # $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 7.4 Multilevel logistic regression models predicting television news use

H5a and H5b proposed that in all election years, newspaper use and television news use are positively related to political knowledge. The more an individual is exposed to newspaper or television news, the higher political knowledge about the election he/she will possess. The hypothesis was first tested year by year. According to Table 7.5, newspaper use is significantly associated with like-dislike knowledge in all election years, but the coefficients vary considerably across elections. For example, in 2004 the coefficient was as high as .160 while in 1964 it was only .073. Two out of six coefficients are significant for the relationship between newspaper use and issue knowledge. In contrast, television news use is a less robust predictor: nine out of fourteen coefficients are significant for the relationship between television news use and like-dislike knowledge and only one coefficient is marginally significant for the relationship between television news use and issue knowledge.

Year	Newspaper Use and Like-dislike Knowledge	Newspaper Use and Issue Knowledge	Television News Use and Like-dislike Knowledge	Television News Use and Issue Knowledge
1952 (N=1471)	.098***	--	.161***	--
1956 (N=1657)	.137***	--	.069**	--
1960 (N=1072)	.104***	--	.079**	--
1964 (N=1591)	.073**	--	.052*	--
1968 (N=1381)	.074**	--	.033	--
1972 (N=1056)	.074*	--	.077**	--
1976 (N=1731)	.145***	--	.078***	--
1980 (N=1239)	.086**	--	.034	--
1984 (N=1718)	.090***	-.013	.110***	-.022
1988 (N=1396)	.148***	.095**	.018	.028
1992 (N=1563)	.106***	.029	.034	-.012
1996 (N=1160)	.121***	.044	.056#	.050#
2000 (N=973)	.128***	.073*	.033	.042
2004 (N=700)	.160***	.049	.105**	-.052

Note: All entries are partial correlation coefficients controlling for gender, age, education, income, and campaign interest. # $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table 7.5 Individual level relationships: newspaper use, television news use, and political knowledge

A second way of testing H5 is to use multilevel modeling, assessing the overall impact of news media use on voters' political knowledge with an omnibus test.

Table 7.6 shows the results of three multilevel regression models predicting the like-dislike knowledge indicator. Model 1 is a null model. Around 1.3 percent of the total variance in like-dislike knowledge is accounted for by differences across elections

(ICC: $p = \left(\frac{\tau_{00}}{\tau_{00} + \sigma^2} \right) = .013$). Although the portion of variance is relatively small, it is

statistically different from zero. Model 2 included all voter level control variables and news media use variables. All demographic effects are set to be fixed and news media use effects are set to be random (see notes to Table 7.6 for details). When demographic and campaign interest factors are controlled, both newspaper use and television news use are positively related to like-dislike knowledge ($\gamma_{60} = 3.650, p < .001$ and $\gamma_{70} = 2.361, p < .001$ for newspaper and television news use) and the effects of news media use vary

significantly across elections ($\tau_6=2.585$ $p<.001$; $\tau_7=.717$ $p<.10$). Model 3 further includes election level variables as controls, but all the relationships at the individual level remain the same. The presence of a strong third party candidate will invigorate voters' political learning ($\gamma_{01}=2.335$, $p<.01$) while race closeness is marginally negatively related to like-dislike knowledge ($\gamma_{02}=-6.608$, $p<.10$).

		Model 1	Model 2	Model 3
Fixed Components				
Intercept	γ_{00}	24.068***	1.793#	5.741
Election Level				
Third party	γ_{01}			2.355**
Race closeness	γ_{02}			-6.608#
GDP Growth	γ_{03}			.713
CSI	γ_{04}			-.021
Voter Level				
Gender	γ_{10}		-.921***	-.918***
Age	γ_{20}		.021**	.021**
Education	γ_{30}		2.279***	2.268***
Income	γ_{40}		1.155***	1.159***
Campaign Interest	γ_{50}		5.263***	5.272***
Newspaper	γ_{60}		3.650***	3.664***
Television	γ_{70}		2.361***	2.287***
Variance of Random Components				
	τ_{00}	3.454***	.275***	1.990***
	σ^2	259.460	197.117	197.123
Newspaper	τ_6		2.585***	2.487***
Television	τ_7		.717#	.666#
Deviance		210759.41	152702.18	152686.13
Number of Estimated Par.		2	7	7

Note: # $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Model 1

Level-1: $Y = \beta_0 + R$; Level-2: $\beta_0 = \gamma_{00} + \mu_0$

Model 2

Level-1: $Y = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + R$

Level-2: $\beta_0 = \gamma_{00} + \mu_0$ $\beta_1 = \gamma_{10}$ $\beta_2 = \gamma_{20}$ $\beta_3 = \gamma_{30}$ $\beta_4 = \gamma_{40}$
 $\beta_5 = \gamma_{50}$ $\beta_6 = \gamma_{60} + \mu_6$ $\beta_7 = \gamma_{70} + \mu_7$

Model 3

Level 1: $Y = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + R$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third Party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP Growth}) + \gamma_{04}*(\text{CSI}) + \mu_0$ $\beta_1 = \gamma_{10}$ $\beta_2 = \gamma_{20}$ $\beta_3 = \gamma_{30}$ $\beta_4 = \gamma_{40}$ $\beta_5 = \gamma_{50}$
 $\beta_6 = \gamma_{60} + \mu_6$ $\beta_7 = \gamma_{70} + \mu_7$

Table 7.6 Multilevel regression models predicting like-dislike political knowledge

Table 7.7 presents the results from three multilevel logistic regression models predicting government spending issue knowledge (ICC=.003). Most of the results are similar to those of the like-dislike knowledge models. But the exceptions are 1)

spending issue knowledge is only predicted by newspaper use ($\gamma_{60}=.217, p<.01$), not by television news use ($\gamma_{70}=.030, n.s.$), 2) the presence of a strong third party candidate is negatively related to issue knowledge ($\gamma_{01}=-.251, p<.001$), and 3) GDP growth is negatively related to spending knowledge ($\gamma_{03}=-.213, p<.05$). Overall, H5a is fully supported while H5b is partially supported.

H6a and H6b predicted that voters' perception toward the economy moderates the relationship between newspaper use and political knowledge. The positive relationship between news media use (i.e. newspaper and television news) and political knowledge will be stronger as the economy is suffering. In other words, there is a cross-level interaction between economic indicators and the impacts of news media. One prerequisite of adding meaningful cross-level interaction terms into the model is that the coefficients of media effects should vary significantly across elections. From Table 7.6 and Table 7.7, it is clear that the impact of news media use on voters' like-dislike knowledge has sufficient between-election variance whereas the impact of news media use on voters' spending issue knowledge has little variance (see τ_6 and τ_7). Therefore, H6a and H6b will be tested only on like-dislike knowledge as dependent variables.

		Model 1	Model 2	Model 3
Fixed Components				
Intercept	γ_{00}	0.809***	-1.437***	4.360***
Election Level				
Third party	γ_{01}			-.251***
Race closeness	γ_{02}			-4.872***
GDP Growth	γ_{03}			-.213*
CSI	γ_{04}			-.007
Voter Level				
Gender	γ_{10}		-.120*	-.121*
Age	γ_{20}		.005**	.005**
Education	γ_{30}		.270***	.273***
Income	γ_{40}		.107**	.105**
Campaign Interest	γ_{50}		.435***	.440**
Newspaper	γ_{60}		.222*	.217**
Television	γ_{70}		.039	.030
Variance of Random Components				
Intercept	τ_{00}	.100***	.295***	.054**
	σ^2	--	--	--
Newspaper	τ_6		.008	.005
Television	τ_7		.020	.026
Deviance		--	--	--
Number of Estimated Par.		2	7	7

Note: # p<.10 * p<.05 ** p<.01 *** p<.001

Model 1

Level-1: $\text{Prob}(Y=1|\beta) = P \quad \log[P/(1-P)] = \beta_0$

Level-2: $\beta_0 = \gamma_{00} + \mu_0$

Model 2

Level-1: $\text{Prob}(Y=1|\beta) = P \log[P/(1-P)] = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television})$

Level-2: $\beta_0 = \gamma_{00} + \mu_0 \quad \beta_1 = \gamma_{10} \quad \beta_2 = \gamma_{20} \quad \beta_3 = \gamma_{30} \quad \beta_4 = \gamma_{40}$

$\beta_5 = \gamma_{50} \quad \beta_6 = \gamma_{60} + \mu_6 \quad \beta_7 = \gamma_{70} + \mu_7$

Model 3

Level-1: $\text{Prob}(Y=1|\beta) = P \log[P/(1-P)] = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television})$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third Party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI})$

$+ \mu_0 \quad \beta_1 = \gamma_{10} \quad \beta_2 = \gamma_{20} \quad \beta_3 = \gamma_{30} \quad \beta_4 = \gamma_{40} \quad \beta_5 = \gamma_{50}$

$\beta_6 = \gamma_{60} + \mu_6 \quad \beta_7 = \gamma_{70} + \mu_7$

Table 7.7 Multilevel logistic regression models predicting spending issue knowledge

First, cross-level interaction items were incorporated into the existing multilevel model. Both news media use items are allowed to be random while all other

predictors are set to be fixed (see Table 7.9 Model 1). After the interaction terms were added to the model, the variance of the coefficient characterizing television news use's impact on political knowledge was no longer statistically significant ($\tau_7 = -.041$, *n.s.*). Given this, the model was re-estimated by setting the television news use to be a fixed predictor. The result of model 2 shows that there is a negative interaction between GDP growth and newspaper use ($\gamma_{61} = -1.355$, $p < .05$), a marginally positive interaction between CSI and newspaper use ($\gamma_{62} = .141$, $p < .10$), and a positive interaction between GDP growth and television news use in predicting political knowledge ($\gamma_{71} = .825$, $p < .05$). The significant cross-level interactions were probed and plotted in Figure 7.7 and Figure 7.8.

			Model 1	Model 2
Fixed Components				
Intercept	γ_{00}		9.757	8.857
Election Level				
Third party	γ_{01}		2.365**	2.293**
Race closeness	γ_{02}		-6.598#	-6.151#
GDP Growth	γ_{03}		1.129	1.024
CSI	γ_{04}		-.081	-.071
Voter Level				
Gender	γ_{10}		-.920***	-.922***
Age	γ_{20}		.021**	.022***
Education	γ_{30}		2.270***	2.274***
Income	γ_{40}		1.157***	1.154***
Campaign Interest	γ_{50}		5.273***	5.270***
Newspaper	γ_{60}		-4.424	-4.434
Newspaper x GDP	γ_{61}		-1.365*	-1.355*
Newspaper x CSI	γ_{62}		.142#	.141#
Television	γ_{70}		3.509	4.520
Television x GDP	γ_{71}		.690	.825*
Television x CSI	γ_{72}		-.041	-.057
Variance of Random Components				
Intercept	τ_{00}		2.178***	1.593***
	σ^2		197.111	197.170
Newspaper	τ_6		1.919***	1.469***
Television	τ_7		.636	--
Deviance			152684.92	152688.94
Number of Estimated Par.			7	4

Note: # p<.10 * p<.05 ** p<.01 *** p<.001

Model 1

Level-1: $Y = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + R$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third Party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI})$

+ μ_0 $\beta_1 = \gamma_{10}$ $\beta_2 = \gamma_{20}$ $\beta_3 = \gamma_{30}$ $\beta_4 = \gamma_{40}$ $\beta_5 = \gamma_{50}$

$\beta_6 = \gamma_{60} + \gamma_{61}*(\text{GDP}) + \gamma_{62}*(\text{CSI}) + \mu_6$

$\beta_7 = \gamma_{70} + \gamma_{71}*(\text{GDP}) + \gamma_{72}*(\text{CSI}) + \mu_7$

Table 7.8 Multilevel regression models predicting like-dislike political knowledge (cross-level interaction)

Model 2 excludes U7 from Model 1. In Figure 14, fourteen regression lines were plotted out, indicating the association between newspaper use and political knowledge for fourteen elections. The impact of newspaper use is in general bigger

during an election with a weak economy than with a strong economy. In contrast, voters' confidence in future economy (i.e., CSI) produced a positive interaction between newspaper use and political knowledge. When voters are relatively confident about future economy, they are going to learn more from reading newspapers. As for television news use, Figure 15 presents a pattern that is at odds with the hypothesis: the impact of television news use is bigger in size when the economy is in good shape. Therefore, H6 is only partially supported and the analysis revealed some interesting and unexpected patterns.

Figure 7.7 Cross-level interactions: economic indicators and newspaper use

Figure 7.8 Cross-level interactions: economic indicators and television news use

H7 predicted that knowledge gap indicated by the interaction between education and news media use in predicting one's political knowledge will be less likely to be observed as perceptions toward the economy are more negative. In testing this hypothesis, the knowledge gap hypothesis was first examined for each election (see Table 7.9). It seems that the presence of knowledge gap is not very prevalent at all. Only in three out of fourteen years, newspaper use created a knowledge gap among people with different levels of SES when like-dislike knowledge was used as a dependent variable. When spending issue knowledge was used as a dependent variable, in one out of six years, newspaper use promotes knowledge gap.

Given that significant variation was found for the coefficients of the interaction terms, formal MLM tests were performed to check whether the presence of knowledge gap could be meaningfully explained by economic conditions. Results from multilevel regression analysis show that the coefficients for the interaction between news media use and education level in predicting like-dislike knowledge is

significant (see Table 7.10, Model 1, item τ_8 and τ_9). However, this is not true for spending issue stance knowledge. Therefore, follow-up analysis was only performed for the like-dislike knowledge indicator. After election level moderators were added into the model (see Model 2 in Table 7.10), it was found that GDP growth is a significant qualifier for the interaction coefficients between newspaper use and education level ($\gamma_{81} = -.358, p < .05$). The three way interaction is visually presented in Figure 7.9.

		R ² for interaction terms	Like-Dislike Knowledge	Issue Knowledge
			OLS	Logistic
1952	TV x edu	.002	.007	
	NPs x edu		.155#	
1956	TV x edu	.000	-.025	
	NPs x edu		-.026	
1960	TV x edu	.001	.060	
	NPs x edu		-.041	
1964	TV x edu	.005**	.005	
	NPs x edu		-.232**	
1968	TV x edu	.000	.000	
	NPs x edu		.006	
1972	TV x edu	.000	-.029	
	NPs x edu		.013	
1976	TV x edu	.001	.023	
	NPs x edu		.106	
1980	TV x edu	.004#	-.062	
	NPs x edu		.172*	
1984	TV x edu	.001	.081	.070
	NPs x edu		.069	-.972#
1988	TV x edu	.000	.000	.110
	NPs x edu		.010	-.063
1992	TV x edu	.002	-.111	-.331
	NPs x edu		-.135#	.160#
1996	TV x edu	.000	.039	-.159
	NPs x edu		.008	-.021
2000	TV x edu	.000	.022	.171
	NPs x edu		.004	.029
2004	TV x edu	.007*	-.068	-.180
	NPs x edu		.307*	.142

Note: # p<.10 * p<.05 ** p<.01 *** p<.001

All entries are standardized coefficients, controlling for gender, age, education, income, campaign interest, newspaper use, and television news use.

Table 7.9 Evidence of knowledge gap by year

		Model 1	Model 2
Fixed Components			
Intercept	γ_{00}	2.760	5.932
Election Level			
Third party	γ_{01}	1.842**	1.869**
Race closeness	γ_{02}	-4.670	-4.686
GDP Growth	γ_{03}	.176	1.203
CSI	γ_{04}	.014	-.060
Voter Level			
Gender	γ_{10}	-.880***	-.883***
Age	γ_{20}	.019**	.020**
Education	γ_{30}	2.346***	2.365***
Income	γ_{40}	1.167***	1.166***
Campaign Interest	γ_{50}	5.293***	5.291***
Newspaper	γ_{60}	3.409***	3.487***
Television	γ_{70}	2.449***	2.394***
Newspaper x Edu	γ_{80}	.002	-1.379
Newspaper x Edu x GDP	γ_{81}		-.358*
Newspaper x Edu x CSI	γ_{82}		.029
Television x Edu	γ_{90}	-.069	.999
Television x Edu x GDP	γ_{91}		.179
Television x Edu x CSI	γ_{92}		-.018
Variance of Random Components			
	τ_{00}	3.498***	3.239***
	σ^2	196.391	196.363
Newspaper x Edu	τ_8	.182***	.140***
Television x Edu	τ_9	.073**	.078*
Deviance		152628.23	152637.88
Number of Estimated Par.		7	7

Note: # p<.10 * p<.05 ** p<.01 *** p<.001

Model 1

Level-1: $Y = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + \beta_8*(\text{Television x Education}) + \beta_9*(\text{Newspaper x Education}) + R$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI}) + \mu_0$
 $\beta_1 = \gamma_{10}$ $\beta_2 = \gamma_{20}$ $\beta_3 = \gamma_{30}$ $\beta_4 = \gamma_{40}$ $\beta_5 = \gamma_{50}$ $\beta_6 = \gamma_{60}$
 $\beta_7 = \gamma_{70}$ $\beta_8 = \gamma_{80} + \mu_8$ $\beta_9 = \gamma_{90} + \mu_9$

Model 2

Level-1: $Y = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + \beta_8*(\text{Television x Education}) + \beta_9*(\text{Newspaper x Education}) + R$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI}) + \mu_0$
 $\beta_1 = \gamma_{10}$ $\beta_2 = \gamma_{20}$ $\beta_3 = \gamma_{30}$ $\beta_4 = \gamma_{40}$ $\beta_5 = \gamma_{50}$ $\beta_6 = \gamma_{60}$
 $\beta_7 = \gamma_{70}$ $\beta_8 = \gamma_{80} + \gamma_{81}*(\text{GDP}) + \gamma_{82}*(\text{CSI}) + \mu_8$
 $\beta_9 = \gamma_{90} + \gamma_{91}*(\text{GDP}) + \gamma_{92}*(\text{CSI}) + \mu_9$

Table 7.10 Multilevel regression models predicting the impact of economic conditions on knowledge gap

According to Figure 7.9, the “knowledge gap effect” is larger with the presence of a higher GDP growth rate. Nevertheless, a careful examination of the graph reveals that the significant interaction might be caused by an outlier. A large number of the interaction coefficients are negatively signed and no prominent differences between the high GDP group and the low GDP group could be identified when that particular case is excluded. Economic conditions do not seem to alleviate or aggravate knowledge gap. Therefore, the statistically significant result seems not very plausible and H7 did not receive robust support.

Figure 7.9 Cross-level interactions: knowledge gap

			Model 1	Model 2
Fixed Components				
Intercept	γ_{00}		4.646***	4.574**
Election Level				
Third party	γ_{01}		-.253*	-.248*
Race closeness	γ_{02}		-4.492***	-4.505***
GDP Growth	γ_{03}		-.156	-.124
CSI	γ_{04}		-.015	-.015
Voter Level				
Gender	γ_{10}		-.122*	-.121*
Age	γ_{20}		.005**	.005**
Education	γ_{30}		.243***	.244***
Income	γ_{40}		.105**	.105**
Campaign Interest	γ_{50}		.438**	.438***
Newspaper	γ_{60}		.000	-.007
Television	γ_{70}		.084	.091
Newspaper x Edu	γ_{80}		.057	.106
GDP interaction	γ_{81}			-.010
CSI interaction	γ_{82}			-.000
Television x Edu	γ_{90}		-.010	-.028
GDP interaction	γ_{91}			-.000
CSI interaction	γ_{92}			.000
Variance of Random Components				
	τ_{00}		.000	.001
Newspaper x Edu	τ_8		.000	.000
Television x Edu	τ_9		.000	.000
Deviance				
Number of Estimated Par.			7	7

Note: # p<.10 * p<.05 ** p<.01 *** p<.001

Model 1

Level-1: $\text{Prob}(Y=1|\beta) = P \quad \log[P/(1-P)] = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + \beta_8*(\text{Television x Education}) + \beta_9*(\text{Newspaper x Education})$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI}) + \mu_0$
 $\beta_1 = \gamma_{10} \quad \beta_2 = \gamma_{20} \quad \beta_3 = \gamma_{30} \quad \beta_4 = \gamma_{40} \quad \beta_5 = \gamma_{50} \quad \beta_6 = \gamma_{60}$
 $\beta_7 = \gamma_{70} \quad \beta_8 = \gamma_{80} + U_8 \quad \beta_9 = \gamma_{90} + \mu_9$

Model 2

Level-1: $\text{Prob}(Y=1|\beta) = P \quad \log[P/(1-P)] = \beta_0 + \beta_1*(\text{Gender}) + \beta_2*(\text{Age}) + \beta_3*(\text{Education}) + \beta_4*(\text{Income}) + \beta_5*(\text{Interest}) + \beta_6*(\text{Newspaper}) + \beta_7*(\text{Television}) + \beta_8*(\text{Television x Education}) + \beta_9*(\text{Newspaper x Education})$

Level-2: $\beta_0 = \gamma_{00} + \gamma_{01}*(\text{Third party}) + \gamma_{02}*(\text{Race closeness}) + \gamma_{03}*(\text{GDP}) + \gamma_{04}*(\text{CSI}) + \mu_0$

$\beta_1 = \gamma_{10} \quad \beta_2 = \gamma_{20} \quad \beta_3 = \gamma_{30} \quad \beta_4 = \gamma_{40} \quad \beta_5 = \gamma_{50} \quad \beta_6 = \gamma_{60}$
 $\beta_7 = \gamma_{70} \quad \beta_8 = \gamma_{80} + \gamma_{81}*(\text{GDP}) + \gamma_{82}*(\text{CSI}) + \mu_8$
 $\beta_9 = \gamma_{90} + \gamma_{91}*(\text{GDP}) + \gamma_{92}*(\text{CSI}) + \mu_9$

Table 7.11 Multilevel logistic regression models predicting the impact of economic conditions on knowledge gap

In summary, most of the hypotheses were at least partially supported by the data. It seems that the economy does play a role in voters' news media consumption and political learning. Although the data showed very complex results, and in some cases contradictory results to the hypotheses, the economy is demonstrated to have a discernable impact on both the news media and voters in many ways. At least, ignoring the economy as a societal level variable will blind us from a more comprehensive picture of the processes and mechanisms of citizen's political learning. In the next chapter, I will connect the dots together and try to make sense of these results, and then discuss various theoretical and social implications that these results might carry.

CHAPTER 8

DISCUSSION AND CONCLUSION

Very few studies in the realm of political communication effects research have paid enough attention to factors bearing on democratic consequences at a societal level. The contribution of this study lies in its focus on one societal level variable, the economy, through the use of multilevel modeling techniques to examine how, when, and how effectively voters learn about politics by attending to the news media for campaign related information during presidential elections. The empirical results of this study revealed a complicated picture, more complex than was expected. But in broad strokes, it could be said that under the rule of economic rationality, a severely sliding economy stimulates voters' political involvement, as is manifested by higher likelihood of news information consumption and higher levels of political knowledge about presidential candidates. Given that informed participation strikes at the very heart of representative democracy, it is important to understand the underlying processes and mechanisms of political learning from both micro and macro perspectives.

In the ensuing sections, I will first present a discussion of the results for each of the hypotheses. Admittedly, not all of my hypotheses are firmly supported by the data. Statistical analysis based on sampling theory is one way of testing the veracity of scientific hypotheses, but absence of evidence does not equate to evidence of absence. The availability of data at the election level presents a major barrier to statistical significance tests in the current study. Therefore, careful subjective judgment has to be combined with statistical evidence to derive sensible and adequate explanations. Also,

when applicable, more data collection and analysis effort will be made to ensure methodological rigor. In particular, some unexpected and perplexing discoveries, for example, the positive connection between newspaper reading and GDP growth rate, merit much exploration. After a full discussion of the hypothesis testing results, I will revisit the theoretical framework of the economic theory of political communication effects, make appropriate revisions, and provide supplementary qualifications where necessary. Third, the meanings and contributions of this study will be discussed by relating the current study to existing literature, exploring the theoretical implications and limitations of this study and how future political communication studies would benefit from studying macro level variables. Last, the fact that a bad economy promotes desired political involvement does not normatively imply that the government has to deploy “bad news” public relation strategies to jumpstart the electorate’s sense of civic responsibility. Since the economy is not an independent variable which could be fully manipulated through human and institutional intervention, deliberation on the social and normative implications of this study will be provided.

8.1 Making Sense of the Results: More Analyses and Explication

The first two hypotheses of this study are located at a societal level: the relationship among the economy, voters’ collective perception toward the economy, and the reaction of news media toward the economy. Both hypotheses are tested against only a handful of cases, representing the past fourteen elections in the U.S. from 1952 to 2004. H1 was not supported. To be fair, the non-significant relationships seem to result from a small sample size: the correlation coefficients are in the right direction and Figure 7.3 shows a clear pattern of negative association. Regardless of statistical significance (Cohen, 1994), the strength of relationship between media publicity and people’s perception of the economy can be characterized as medium ($r^2=0.28$) judging

by its effect size. Besides, the operationalization of media publicity is not without problems: the variable was constructed through a Lexis-Nexis database headline search with non-exhaustive simple keywords. Both factors could reduce the statistical power of the correlation test.

To obtain a clearer understanding of the relationships among these variables, more data were collected to obtain higher statistical power. Since none of the three variables are constrained by the presidential election context, data on media publicity, CSI, and GDP growth rate were collected from 1952 to 2004 (53 cases in all). Correlation analysis show that there is a significant negative relationship between CSI and media publicity ($r = -.320, p < .05$) and a marginally significant negative relationship between GDP and media publicity ($r = -.228, p < .10$). When these two coefficients were compared to those derived from the election years, it is found that relationships between economic condition and media publicity during election years seem to be stronger ($r = -.533$ and $r = -.329$). It is possible that during election years important social and political issues are more likely to be brought up by journalists and politicians to satisfy the information needs of the electorate.

But due to the autocorrelation nature of the two series, simple correlation analysis might violate the assumption of independence which would result in a smaller estimated standard error. Thus, vector regression models from time series analysis (VAR) were used to test if the three variables are related in some way (Enders, 2004, p.264). Both GDP growth rate and CSI were treated as exogenous variables since media coverage of the economy seems to have a relatively small impact on real economic conditions in the short run. Although there is a reciprocal relationship between voters' perception of the economy and the state of the economy, the causal influence from reality to perception is far stronger than the reverse (Stimson, 2004).

The results show that both GDP growth ($b=-13.55, p<.05$) and CSI ($b=-.54, p<.10$) are negatively related to media publicity. From this, we might be able to derive two explanations. First, the amount of news media coverage about the economy is a good indicator of the degree of negativity of economic status. Second, the strong and significant correlation between media publicity and voter perception suggests voters' vulnerability to media agenda-setting. Voters' collective perception toward the economy moves closely with the reality presented by the news media. Therefore, H1 received support from the additional data.

H2 was fully supported with a strong correlation. Voters' collective perception of the economy was demonstrated to be a fairly accurate reflection of the actual condition of the economy. It could also be argued that the electorate is composed of economically rational individuals, seeking information from different channels to keep themselves informed about the aspect of social reality that could influence their material benefits.

H3 proposes that a bad economy spurs campaign interest. This hypothesis did not receive firm support. At a macro level, economic conditions show a very weak negative association with campaign interest (see Figure 7.5). At the individual level, individuals react with high campaign interest to both positive and negative economic conditions. The conditioning mechanisms are not all clear. But two preliminary observations could be made. First, voters' perception of the future economy is always positively related to campaign interest, sometimes significantly but sometimes not. Desperate and hopeless feelings toward the future economy breeds political indifference and cynicism. Second, the relationship between past economic performance and campaign interest is rather intricate. It seems that the extremity of economic performance also plays a role in the process, in addition to the valence of

economic conditions. Two years in the data set produced a negative relationship between interest and personal evaluation of the economy (i.e., 1980 and 1992) and other two years produced a positive relationship (i.e., 1984 and 1996). Not coincidentally, in both 1980 and 1992, the economy has been sliding down for two consecutive years; while in 1984 and 1996, the economy bounced back with new promising presidents taking the office for four years (i.e., Ronald Reagan and Bill Clinton).

With a closer look at the trend series of GDP growth in the past fifty years (Figure 7.5), it is obvious that the most turbulent ups and downs are located around 1980 and 1992. Economic performance from 1952 to 1972 is relatively stable and choppy movement of the series started to emerge in the 1980s and the 1990s. It is not my intention to generalize based on such a small number of cases, but the data are highly suggestive of the fact that prolonged and severe economic recession will connect people's perception of past economic performance to campaign interest with a negative correlation, whereas sizable economic growth connects past economic performance to campaign interest with a positive correlation. In sum, not all bad economic conditions catch voters' attention.

H4 predicts that individual's interest in a particular presidential election is positively related to various forms of news media use. This hypothesis corroborated with the data consistently. Campaign interest is an important antecedent of news media exposure, as is shown in numerous existing studies on this topic. Moreover, the study also identified some macro level predictors which can explain a part of the variance in news media use, newspaper use in particular. First, race closeness facilitates getting information from newspapers. When the election is a contested race, more political information flow between the media and the electorate could be expected. On the one

hand, the news media might spend more time and resources covering a close contest than a tedious race with an expected landslide result. On the other, when voters are facing equally appealing candidates, ambivalence toward candidates and excitement about the result might encourage them to acquire news information more frequently than otherwise. This is in line with Zhao and Bleske's (1998) counter-intuitive observation that horse-race polls actually increase voters' attention to election messages, which in turn leads to a better understanding of politics.

Second, newspaper consumption is related to CSI negatively but to GDP growth positively. This is a rather surprising finding. The negative correlation between voters' perception of the economy and newspaper use is within expectation: out of the motivation for defending one's materialistic benefits, the newspaper is an effective channel for obtaining political information so that voters could make an informed choice for a president who can save the nation from further economic hardship. But if this logic holds, why is GDP growth rate positively linked with newspaper consumption? One possible explanation is that newspaper circulation could be constrained by the state of the economy. Although newspaper subscription fees do not constitute a large portion of everyday life spending, it is reasonable to argue that at the national level, the whole newspaper industry would be less profitable due to a lowered circulation when the economy is staggering.

To test the validity of this explanation, national newspaper circulation data by year were obtained from the *Newspaper Association of America*⁹ and combined with the GDP growth data collected from the *Department of Commerce*. Since this ad hoc hypothesis is no longer restricted by the election context, two time series with 53 data points from 1952 to 2004 were constructed. Because of autocorrelation of the two

⁹ <http://www.naa.org/TrendsandNumbers/Total-Paid-Circulation.aspx> Source: Editor and Publisher International Yearbook

series, ARIMA model was used to test if the two variables are related in some way. Using the Box- Jenkins approach, ARIMA (1, 0, 1) was applied to model national newspaper circulation. The results show that both the original series of GDP growth ($b=57.56, p<.05$) and its first differences series ($b=50.01, p<.10$) are positively related to newspaper circulation.

Overall, there seems to be a rather paradoxical pattern regarding the relationship between economic conditions and news media consumption: voters' perception toward the economy could stimulate political information acquisition from newspapers but at the same time, newspaper circulation is tied to the state of the economy. Nevertheless, television news use is not at all related to any election level variables. Television news could be obtained almost at zero financial cost, and therefore, it is free from the influence of the economy.

H5 proposed that news media use is positively related to political knowledge. This hypothesis is only partially supported. Both television news use and newspaper use are significant predictors of like-dislike knowledge indicators but only newspaper use is related to spending issue knowledge. This difference could be explained by the nature of the like-dislike knowledge measure, which is more of a measure suggesting the "quantity" of political knowledge rather than the "quality" of knowledge. Therefore, newspapers seem to inform voters with more substantial issue information than television news does (Chafee & Frank, 1996).

In addition, the presence of a strong third candidate and a close race could lower the chance of correctly answering the spending issue question whereas a bad economy could improve it. These results are in line with the predictions outlined in the theoretical framework. A strong third candidate would divert voters' attention from the two major party candidates and therefore voters will be less likely to be informed about

two major candidates' issue stance on government spending. Besides, a close race might reflect the fact that the two candidates are similar on various issue stances and hence, it will be more difficult for voters to figure out candidates' differences. Finally, a bad economy does improve political learning. Under harsh economic conditions, voters are better informed in general. The interpretations of this could be found in H1-H4: a) voters have a relatively accurate perception toward the state of the economy due to news media coverage, and b) a seriously troubled economic condition would boost voters' interest in the campaign, which in turn enhances news consumption and political information intake.

H6 predicts that economic conditions moderate the relationship between news media use and political knowledge. The positive relationship between news media use and political knowledge will be stronger as the economy declines. This hypothesis is partially supported. Due to the small number of cases for the government-spending issue knowledge measure, the variance of the regression coefficients characterizing the relationships between news use and spending issue knowledge are not significant. Thus H6 was only tested with like-dislike knowledge indicators. The results indicate that GDP growth rate negatively conditions the association between newspaper reading and political knowledge, and positively conditions the association between television news use and political knowledge. Why would it be that in a bad economy, newspaper use is more effective for learning while television news use is less so? There are two possibilities. First, the two media modalities differ. As has been discussed by numerous theorists, the form and content of television news are less conducive for effective political learning (e.g., Graber, 1980). Second, a less sanguine interpretation would blame voters with lower SES: to the extent that newspapers are used mainly by social elites and television news is used mostly by people with lower SES, it is possible that

the two groups of people have different information acquisition predispositions that contribute to such results. Grabe et al. (2000), from the standpoint of evolutionary psychology, argue that biological systems of people with more education prepare them better for negative events than those of people with less education. Thus it is possible that the elites' learning pattern is more crisis-oriented, while the learning pattern of the disadvantaged is more reward-oriented. The former's learning interest will be highest when the state of the economy is bad whereas the latter's learning interest is the highest when the economy is in good shape. This explanation could actually be tested with the current data. Voters were divided into two groups by the criteria whether or not they hold a college degree and whether or not they are above the average income level. Figure 8.1 shows that campaign interest series of the privileged and the disadvantaged are actually parallel to each other. Thus, the data do not lend much support to the idea that people with high and low SES differ in their reaction mechanisms to economic conditions. However, this should be tempered by the fact that the use of newspaper and television news is not independent. I do not intend to bluntly equate people with lower SES to television users but given the strong association between education and newspaper use, such analysis at least provides some initial insights. Therefore, it seems media modality difference sounds more plausible than people difference in explaining the results obtained from testing H6.

Figure 8.1 Campaign interest by SES

H7 proposes that the knowledge gap indicated by the interaction between education and news media use in predicting one's political knowledge will be less likely to be observed as the economy is deteriorating. This hypothesis was not supported at all. An alternative way of testing the knowledge gap hypothesis is to check

if during an election when the economy is bad, the relationship between SES indicators and knowledge would be less strong, since issue importance could alleviate knowledge gap (Gaziano, 1983). Figure 8.2 plots out the regression coefficients between SES indicators (i.e., education and income) and political knowledge. However, it seems the two coefficient series are not related to the ebb and flow of GDP growth in any meaningful ways. Therefore, economic conditions seem to have nothing to do with the increase or decrease of knowledge gaps.

Figure 8.2 Strength of regression coefficients between SES and political knowledge

The above discussion and analyses have clarified the confusion produced by the result section. Overall, more pieces of evidence have been added to the proposed theory. All of my hypotheses received some form of support except for the last one related to the knowledge gap hypothesis.

8.2 The Economic Theory of Political Communication Effects Reconsidered

To reiterate, the core arguments of the economic theory of political

communication effects are that a) both the “bad news-prone” media and economically-rational voters are reactive to serious economic downturns (Downs, 1957); b) based on subjective value judgments, political information from the news media is perceived to carry different levels of gratifications and utilities (Katz, Blumler, & Gurevitch, 1974) under different economic conditions; and therefore c) voters with different levels of learning motivation will exhibit varying degrees of learning effects through seeking and absorbing campaign information from the news media. Generally speaking, the theory received strong support. Nevertheless, new insights from data analyses could be incorporated into the theoretical framework. The add-ons will mostly be conditional statements in essence. It is true that layering more constraints to the theoretical model will undermine the parsimony of the theory, yet here I am attaching more importance to theoretical accuracy than simplicity, trying to pinpoint the presence and absence of the effects defined in the theory. The revised theoretical model is shown in Figure 8.3.

Figure 8.3 An economic model of political communication effect revised

First of all, a faltering economy is neither a sufficient nor required condition for heightened political interest, news media use, and political learning. Although in various tests, economic conditions or people's perceptions toward the economy have been demonstrated to associate with these individual level indicators, the relationships are weak to moderate. This reminds us of two facts. For one, economic rationality is only sensitive to major economic changes, serious recessions in particular. Downward movement of GDP in small scales will not be perceived as a signal of economic crisis to most people, thus it would not trigger collective concerns and actions. In addition, as has been mentioned earlier, beyond the economy other political crises of various kinds (e.g., foreign affairs like the Iran hostage crisis, and the two Iraq Wars) could promote interest in elections.

Besides, the state of the economy does not perfectly correspond to the collective perception of the economy. In other words, the mediated reality of the economy in voters' mind is a mixture of inputs from different sources: media frames, personal experience, interpersonal discussion, and local community environment, etc. Both the economy and people's perception toward the economy have unique explanatory power. In addition, it seems important to differentiate people's perception toward past economy and their expectation of future economy. Whether voters are forward-looking or backward-oriented has been a controversial issue for political scientists (Krause, 1997; MacKuen, Erikson, & Stimson, 1992, Suzuki, 1992). Some argues that voters are inherently prospective in their economic evaluations (MacKuen, Erikson, & Stimson, 1992) while others hold that both retrospective and prospective judgments matter (Clarke & Stewart, 1994). In this sense, the inclusion of both CSI and GDP growth in the prediction equation seems necessary, as CSI is a measure heavily grounded upon the projection of future economy.

Furthermore, media modality matters. Media modality can influence the quality and the amount of the information voters obtain. Many media scholars have long discussed the sharp differences between news from television and newspapers. Print newspapers are a highly-involving medium and television news consumption requires much less cognitive effort and attention (Culbertson & Stempel, 1986; for a different argument, see Grabe et al.'s (2000) experimental study on knowledge gap). Television campaign coverage tends to focus more on events, personalities, and hoopla, and thus in-depth issues and candidate stance coverage is less seen on television than in newspapers (Graber, 1980; Neuman, Just & Crigler, 1992; Robinson & Davis, 1990). Newspapers are more likely to frame a story thematically while television news provides emotional appeals and event-oriented stories more frequently (Hallin, 1986). Corresponding to these observations, studies have shown that television is not an efficient tool for political learning: television news viewers have poor factual information recall (Neuman, 1976; Volgy & Schwarz, 1980; Wagner, 1983; Gunter, 1987) and tend to gain "image-oriented" information (Pan et al., 1994). Chaffee and others (Chaffee & Frank, 1996) argue that television news serves a different need in the citizenry and it offers a complementary contribution to print newspapers. Certainly, there is some truth in such an argument. But, as was shown in the analysis with that data span more than fifty years, television news use is inferior to newspaper use in several different aspects. First, the aggregate level of television news use is less reactive to economic conditions. Second, television news use is only related to voters' like-dislike knowledge scores but not to their issue knowledge scores. Third, the impact of television news on political learning becomes weaker when the economy is sliding down. It is possible that these differences are partially produced by a self-selection process, but regardless of the underlying mechanisms, the theoretical

model proposed in this study should treat different types of news sources with discrimination: the use of newspaper conforms to the theory's prediction while the use of television does not.

Finally, speaking of the type of political knowledge, the final endogenous variable in the theory should be broken down into different dimensions to ensure theoretical accuracy. The data show that government-spending issue knowledge is better predicted by macro economic indicators than the like-dislike knowledge indicator. Given that the two knowledge measures in this study are different on multiple dimensions, interpretations should be made with extra caution. It is possible that it is the quantity vs. quality difference (Park, 1967, p.33) that produced this result. If this is true, then economic crisis would enhance the quality of citizens' political knowledge but not the amount of knowledge. Yet it is also possible that the discrepancy is rooted in the difference between an economy-focused knowledge measure and a general political knowledge measure. Since economic crisis is the election level predictor in the current study, political knowledge related to economic issues would naturally be a better predictor for its content-specificity. But given the strong correlation between the two knowledge measures, there might be a spill-over effect at work: economic crisis triggers knowledge acquisition specific to economic issues but at the same time, enhanced interest in the campaign could help voters to acquire more general political knowledge, though to a lesser extent.

8.3 Theoretical Implications: Connecting Motivation to Political Context

Previous studies on news media's impacts on citizen's political learning have been proceeding on three major fronts: a) studies dealing with media use effects; b) studies focusing on the function of motivation; and c) studies emphasizing contextual effects. Few efforts were made in the past to weave different aspects of theoretical

emphases into a unified whole. Drawing on research from social and cognitive psychology, Eveland's (2001) recent cognitive mediation model, for example, is one exception in that it proposes a causal flow from motivation to news exposure to information processing strategy and political knowledge acquisition. As Eveland puts it, the cognitive mediation model "proposes that learning from the news is determined through a causal process in which self-imposed learning motivations drive the processing of news information to which individuals are exposed and that this processing to a great extent determines the amount of learning that will occur." (2001, p.571) Notwithstanding its contribution, what is absent in Eveland's model are variables that could be used to account for the "self-imposed learning motivations". Or perhaps, motivations which propel voters to acquire political information might not be completely self-imposed, and to some extent, they are reflections of social and political changes.

The major theoretical advancement this study made is to combine the three abovementioned theoretical foci into one coherent framework on the basis of rational choice theory, uses and gratification perspective, and other relevant studies. The current study provides solid evidence to support the arguments from the existing studies about the role of motivation, media use, and information environment in learning about politics. In addition, a causal flow is established from the presence of an economic crisis, to learning motivation, to news exposure, and finally to knowledge acquisition. In other words, citizens' learning motivation has to be explained by appropriate antecedents.

In the past, studies that focus on motivation and those which emphasize social and political context seldom converge. On the one hand, many researchers consider that the choice of media information and the consequent learning stem from

motivational interests of the public (Ettema & Kline, 1977; Greenberg et al., 1965). The perceived usefulness of news information decides exposure and learning (Genova & Greenberg, 1979; McLeod & Perse, 1994). On the other hand, contextual factors' importance for information acquisition is underscored by many as well (e.g., Bennett & Bennett, 1993; Erskine, 1962; Gaziano, 1983; Greenberg, 1964; Jennifer & Barabas, 2006; Jerit, Barabas, & Bolsen, 2006; Levy, 1969; Tichenor, Donohue, & Olien, 1970). The results of this study show that the rational choice paradigm has the potential to serve as an interface to bridge the theoretical divide between learning motivation and social and political context.

At the very beginning of this study, I mentioned Drew and Weaver's research series on news media use and political learning. To check the applicability of my theoretical argument that motivation could be considered as a reflection of political and economic context, it would be interesting and meaningful to revisit their studies now in some detail, since they are perplexed by some discrepant findings from multiple elections years. In both elections in 1988 and 1992, Drew and Weaver (Drew & Weaver, 1991; Weaver & Drew, 1995) found significant relationships between news media exposure/attention and knowledge of candidate issue positions. However, in the 1996 election, they noticed (Drew & Weaver, 1998) the news coverage was less extensive, audience interest was down, and attention and exposure to news media had little impact on learning about issues or motivating people to vote. In attempt to explain the self-contradictory results, Drew and Weaver tried to account for the differences by pointing to presidential candidates' ability to generate interest in the campaign. In analyzing the 2000 election data, they further noticed the conflicting results from different elections. They argued:

Our data from the last three elections seem to indicate that interest in the campaign is a key variable in determining media effects. There seems to be an interest threshold, below which media appear to have little measurable relationship to learning. When interest drops, obviously media use and attention drop, and interest alone accounts for most of the variance in learning. But when interest increases, attention to media coverage of elections seems to have an effect above and beyond differing levels of political interest. (Weaver & Drew, 2001, p.795)

They are right about the function of voter's interest, but not so accurate about the force that drives the movement of collective interest. Had Drew and Weaver noticed the economic conditions when different elections were held, they would come up with a better and more sensible explanation. Note that in both 1988 and 1992, the economy was undergoing a recession, but in 1996, after four years of Clinton administration, the GDP growth rate came back to 3.1%. This explained why the 1988 and 1992 survey data sets produced a significant relationship between news media use and political learning but the 1996 data set did not. Seen in this light, Drew and Weaver's studies actually add more evidence to my proposed theory. To quote Bill Clinton's catchphrase, "It's the economy, stupid."

8.4 Study Limitations and Broadening the Framework

Grounding media performance and citizen's political knowledge on the basis of the rational choice of human agency, this study provides a theoretical framework that unifies the macro-social and micro-individual processes of political communication. However, the study is not without limitations.

First, there are a few methodological weaknesses dealing with variable operationalization. Issue knowledge, a single item measure in this study, would be

operationalized with higher quality if multiple items could be used, to increase the reliability and validity of the measurement. Collective perception of the economy, as was represented by CSI, is measured with both prospectus and retrospective items. But the individual level data show that prospective and retrospective attitudes toward the economy are conceptually distinctive.

Moreover, the dichotomous measure of news media use is rather rough, which only captures a small part of variance in news media use across individuals. In particular, although the study has made much effort to guarantee similar question wording across surveys conducted during different elections, the meaning of media use measure could still change across time due to the changes in media environment in the past several decades.

On the one hand, there is a switch of dominant medium from newspaper to television to the internet because of technological innovation. This general trend could influence the effectiveness of news media use in addition to the economy. Particularly, television in the early 1950s had a low adoption rate. Thus it is possible that some unconnected voters intended to learn about politics, but had no easy access to information channels. Similarly, in the most recent two elections (2000 and 2004) included in this study, a large amount of young voters are obtaining political information online, and television news and newspapers are only secondary news media to them.

On the other hand, exposure to news might mean different things in different elections. To take television news as an example, network news in the U.S. started with a 15-minute broadcast and then expanded to 30 minutes. Later on, the emergence of cable news makes news available on a 24-hour continuous basis. Apparently, exposure to news programs of different length will influence the amount of

information one could acquire. Quantity aside, many content analysis studies have documented the changes of presidential campaign news coverage in terms of horserace, sound bites, and policy coverage (Benoit et al., 2005; Hallin, 1992; Patterson, 1994; Sigelman & Bullock, 1991). News media content difference could change the meaning and effect of news exposure as well.

Second, the structure of the multilevel data set in this study is not ideal. The small number of second level cases could undermine the statistical power of multilevel analysis. If more second level cases could be obtained, the results in this study might be more convincing. Third, some variables relevant to the theoretical model are not included in the analysis, including emotion. Marcus and MacKuen (1993) argued that emotion plays a crucial role in the process of election campaigns. Future studies could examine whether collective level of anxiety could be influenced by economic conditions, and whether it could promote voters' learning motivation. Besides, the current study did not include any news media use items other than newspaper and television news use. As novel news channels, such as cable television, talk radio, and the Internet, proliferate, it is imperative that researchers examine the democratic effects of these news sources from a historical perspective and at a societal level.

Admittedly, given the scarcity of historical data sets, it is unlikely that these weaknesses could be overcome by using alternative data sources. However, one possible future endeavor which can help remove the abovementioned methodological limitations is to test the economic theory of political communication effects with cross-sectional datasets. For instance, in the context of gubernatorial election races, voters' information seeking, news media use, and political learning could be a function of state economies. In such a case, the second level unit of analysis will be areas with

differing state level economic conditions and individuals are nested under geographical regions instead of historical periods. Recent cross-sectional surveys with more sophisticated measurement could be put to better use.

One final potential defect in my theoretical model is that citizens are theorized as passive reactors rather than active individuals in a democracy. Pan and McLeod (1991) specify two types of cross-level linkages in their discussion of multilevel theorizing: on the one hand, social context constrains individual media professionals and audiences (a ‘top-down’ process from macro to micro); on the other hand, an aggregation of individual behavior impacts social configuration (a ‘bottom-up’ process from individuals to groups). The four types of relationships in my model fall unanimously into the former category. I have argued earlier for the exogeneity of the economy relative to an individual’s political knowledge, yet it is not to naysay the collective influence over the social political reality. The exogeneity could be considered a short-lived one: within the period of a campaign, how much the electorate knows about politics can by no means change the status quo of both the economic and political context in the short run. Nevertheless, by absorbing substantive political information from the news media, citizens can have a collective impact on politics by altering the election outcome, thus making the model a recursive one (see Figure 8.4). Citizens’ political learning follows a cycle that is linked to the economy, and their collective action will impinge upon political and economical reality that further coordinates their responses.

Figure 8.4 A dynamic equilibrium model of political learning

Such model expansion adds to the economic theory of political communication effects another layer of meaning concerning the relationship between agency and structure: individuals are both producers and products of social systems (Giddens, 1984). As Bandura's (2002) social cognitive theory suggests, there exists a triadic reciprocal causation among personal, behavioral, and environmental determinants. To put this into perspective, people's news media use habits, though constrained by personal predispositions, depend on and influence political and economic conditions. The media in society serve as a feedback loop when they call public attention to social problems. The feedback function of the news media maintains the system in a state of adaptive equilibrium (Tichenor, Donohue, Olien, 1973).

8.5 The Bad News Effect: Seeking Social Implications

Informed participation is theorized to be a crucial feature for a healthy democracy (Barber, 1984). Citizens are expected to fulfill their duty to obtain information about public and political issues and to use that information in their political decisions (Berelson, 1952; Schudson, 1998). But contrary to this ideal, the average level of factual political knowledge in the U.S. is low and people learn little from the news (Converse, 1990; Delli Carpini & Keeter, 1996; Graber, 1988; Neuman,

1976). Personal freedom undergirded by the notion of a laissez-faire political system sometimes will result in indifference to politics. As Hyman and Sheatsley pointed out more than fifty years ago, “even if all these physical barriers to communication were known and removed, there would remain many psychological barriers to the free flow of ideas.” (Hyman & Sheatsley, 1947, p.412) The advancement of communication technology has removed many physical barriers for citizens in contemporary societies to obtain political information in a timely manner, however, the psychological barrier, learning motivation, seems to be less conquerable.

Converse (1975) suggested politics is of “tertiary importance” to most people for most of the time. Patterson has a similar sympathetic view: “Citizens... have children to raise, jobs (other than politics) to perform, skills (other than politicking) to acquire, leisure activities to pursue...and their appetite for political information is weak” (Patterson, 1993, p.45) Tewksbury’s recent study on internet use further confirmed the same observation: with enhanced user-control, online readers were found to skip reading news about public affairs, and to acquire entertainment information more frequently (Tewksbury, 2003). Analyses based on longitudinal data have conveyed a pessimistic outlook as well. During the 1980s, Neuman (1986) and Bennett (1988, 1989) suggested that political knowledge was no greater than it was in the 1950s and might have even declined.

Do all these warrant a gloomy prospectus? Not necessarily. The empirical evidence from the current study could be used to argue for a more positive outlook. Citizens’ level of political knowledge is a partial reflection of the state of the economy. People learn more when there is a crisis. If the electorate could be more knowledgeable when critical collective decisions have to be made, being ignorant when the government is taking good care of its constituents’ interest does not

constitute too much of a threat. Voters are rational in that they react to social, political, and economic contexts. As Converse put it, “voters are no fools to remain ignorant.” (Converse, 1975, p. 96) The equilibrium model I proposed in the previous section is consistent with the idea of a rational public, a model predicated upon limited information rationality (Lupia & McCubbins, 1998; Popkin, 1991).

Page and Shapiro (1992) find that public opinion on most issues is strikingly stable; when there are significant changes in opinion, it can be explained by social and economic changes in the long term and media information in the short term. They also mention that people’s political knowledge level is higher when there are intense political events happening (e.g., during the 1960s when social movements were frequent), which matches with my core argument that bad news drives learning. Stimson (2004) finds that “mood,” an indicator of public preference on liberal policies, is linked to political context. When there is a Republican president, the public mood tends to move toward liberalism to counterbalance the government; while there is a Democratic president, the public mood tends to move toward conservatism. In short, voters’ political behavior, including their news consumption, is not stationary, but follows a predictable dynamic pattern that fluctuates with social and political environments. The division of labor is a hallmark of a representative democracy. It is rational for most of the people to delegate the responsibility of studying policies to journalists, experts, elected officials, and other elites, when their material benefits are taken good care of by the government.

In comparison to the issue concerning citizens’ low level of political knowledge, this study suggests knowledge gaps across social segments might deserve much more serious scholarly attention. First, learning motivation has an underlying social-structural cause (Olien, Donohue, & Tichenor, 1983; Viswanath & Finnegan,

1996). Citizens of lower socio-economic status are less interested in the campaign, exposed to less news content, and less knowledgeable about politics. Second, when they are exposed to news, television is the major channel through which they obtain their information. It is true that some studies found that television has a higher potential to bridge the knowledge gap than newspaper (e.g., Kleinnijenhuis, 1991). Yet television news use is not very conducive for political learning, and during an economic recession, its impact on political knowledge became weaker. It is debatable that whether the persisting knowledge gap between people with lower SES and higher SES is caused by factors attributable to social and media systems (e.g., Olien et al., 1983) or to the problem with less educated individuals (Grabe et al., 2000), but public affairs knowledge is the basis of social power, and if the media system does not favor people with lower socio-economic status, the disenfranchised segments of society will be perpetuated. In this light, creating a more equitable knowledge distribution seems to be a more desirable goal. In other words, the issue of equality should precede the issue of quantity.

8.6 Conclusion

To conceptualize political communication effects as universal is at odds with the complexity of social reality. Collective political response, including one's news exposure behavior, can be shaped by economic circumstances. A rational public in a representative democracy does not need to possess high levels of political knowledge all the time. When voters' interest is taken care of by the government, they delegate their political rights to the elites. But when the elites fail and voters' interest is at risk, the electorate reclaims their political rights by paying attention to politics in hopes of learning and making changes by careful voting. Voters at a collective level act as a thermostat, and their political knowledge level is conditioned by macro social and

political factors. The news media's role in an election is twofold: to inform and to motivate. Motivating information can stimulate more media attention and knowledge acquisition while the widespread information about a particular topic can mitigate knowledge gaps across social hierarchies. Simply put, bad news is good for participation (Martin, 2008).

Although news media exposure and political information holding is treated as the major criterion variable in this study, the model's theoretical underpinning can be applied to other indicators of political involvement as well. Numerous studies have demonstrated that knowledge is associated with voting and other forms of political participation (Delli Carpini & Keeter, 1996; Kenski, & Stroud, 2006; Galston, 2001). Thus it makes sense to substitute political knowledge variables in the model with political participation ones, when additional elaboration and justification are provided.

To conclude with a research agenda, a comprehensive understanding of political communication effects mandates the careful consideration of societal level factors. The lack of stories at the macro/societal level might potentially reduce the theoretical value of the models developed by communication scholars. The confluence of studying micro-processes with macro-contexts will provide a productive ground for future work (Pan & McLeod, 1991; Ritchie & Price, 1991; Slater, Snyder, & Hayes, 2006). This study provides a preliminary theoretical framework by proposing and testing an economic model of political learning. Future theoretical and empirical pursuit in this direction is challenging, yet rewarding.

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APPENDIX A POLITICAL KNOWLEDGE VARIABLES

Issue Stance Knowledge: Government spending

2004: V043138 V043139

2000: V000562 V000568

1996: V960453 V960455

1992: V923702 V923703

1988: V880303 V880304

1984: V840376 V840377

Like-Dislike Knowledge:

2004: V043053 V043055 V043057 V043059 V043007 V043009 V043011 V043013

2000: V000306 V000307 V000308 V000309 V000310 V000312 V000313 V000314
V000315 V000316 V000318 V000319 V000320 V000321 V000322 V000324
V000325 V000326 V000327 V000328 V000374 V000375 V000376 V000377
V000378 V000380 V000381 V000382 V000383 V000384 V000386 V000387
V000388 V000389 V000390 V000392 V000393 V000394 V000395 V000396

1996: V960206 V960207 V960208 V960209 V960210 V960212 V960213 V960214
V960215 V960216 V960218 V960219 V960220 V960221 V960222 V960224
V960225 V960226 V960227 V960228 V960314 V960315 V960316 V960317
V960318 V960320 V960321 V960322 V960323 V960324 V960326 V960327
V960328 V960329 V960330 V960332 V960333 V960334 V960335 V960336

1992: V923110 V923111 V923112 V923113 V923114 V923116 V923117 V923118
V923119 V923120 V923122 V923123 V923124 V923125 V923126 V923128
V923129 V923130 V923131 V923132 V923402 V923403 V923404 V923405
V923406 V923408 V923409 V923410 V923411 V923412 V923414 V923415
V923416 V923417 V923418 V923420 V923421 V923422 V923423 V923424

1988: V880104 V880105 V880106 V880107 V880108 V880110 V880111 V880112
V880113 V880114 V880116 V880117 V880118 V880119 V880120 V880122
V880123 V880124 V880125 V880126 V880183 V880184 V880185 V880186
V880187 V880189 V880190 V880191 V880192 V880193 V880195 V880196
V880197 V880198 V880199 V880201 V880202 V880203 V880204 V880205

1984: V840267 V840268 V840269 V840270 V840271 V840273 V840274 V840275
V840276 V840277 V840279 V840280 V840281 V840282 V840283 V840285
V840286 V840287 V840288 V840289 V840082 V840083 V840084 V840085
V840086 V840088 V840089 V840090 V840091 V840092 V840094 V840095
V840096 V840097 V840098 V840100 V840101 V840102 V840103 V840104

1980: V800173 V800174 V800175 V800176 V800177 V800179 V800180 V800181
V800182 V800183 V800185 V800186 V800187 V800188 V800189 V800191
V800192 V800193 V800194 V800195 V800078 V800079 V800080 V800081
V800082 V800084 V800085 V800086 V800087 V800088 V800102 V800103
V800104 V800105 V800106 V800108 V800109 V800110 V800111 V800112

1976: V763088 V763089 V763090 V763091 V763092 V763094 V763095 V763096
V763097 V763098 V763100 V763101 V763102 V763103 V763104 V763106

V763107 V763108 V763109 V763110 V763112 V763113 V763114 V763115
V763116 V763118 V763119 V763120 V763121 V763122 V763124 V763125
V763126 V763127 V763128 V763130 V763131 V763132 V763133 V763134
1972: V720031A V720031B V720031C V720033A V720033B V720033C V720035A
V720035B V720035C V720037A V720037B V720037C V720039A V720039B
V720039C V720041A V720041B V720041C V720043A V720043B V720043C
V720045A V720045B V720045C
1968: V680028A V680028B V680028C V680028D V680028E V680029A V680029B
V680029C V680029D V680029E V680030A V680030B V680030C V680030D
V680030E V680031A V680031B V680031C V680031D V680031E V680032A
V680032B V680032C V680032D V680032E V680033A V680033B V680033C
V680033D V680033E V680034A V680034B V680034C V680034D V680034E
V680035A V680035B V680035C V680035D V680035E V680036A V680036B
V680036C
1964: V640021A V640021B V640021C V640021D V640021E V640022A V640022B
V640022C V640022D V640022E V640023A V640023B V640023C V640023D
V640023E V640024A V640024B V640024C V640024D V640024E V640025A
V640025B V640025C V640025D V640025E V640026A V640026B V640026C
V640026D V640026E V640027A V640027B V640027C V640027D V640027E
V640028A V640028B V640028C V640028D V640028E
1960: V600020A V600020B V600020C V600020D V600020E V600021A V600021B
V600021C V600021D V600021E V600022A V600022B V600022C V600022D
V600022E V600023A V600023B V600023C V600023D V600023E V600024A
V600024B V600024C V600024D V600024E V600025A V600025B V600025C
V600025D V600025E V600026A V600026B V600026C V600026D V600026E
V600027A V600027B V600027C V600027D V600027E
1954: V560015A V560015B V560015C V560015D V560015E V560016A V560016B
V560016C V560016D V560016E V560017A V560017B V560017C V560017D
V560017E V560018A V560018B V560018C V560018D V560018E V560019A
V560019C V560019D V560019E V560019B V560020A V560020B V560020C
V560020D V560020E V560021A V560021B V560021C V560021D V560021E
V560022A V560022B V560022C V560022D V560022E
1952: V520018A V520018B V520018C V520018D V520018E V520019A V520019B
V520019C V520019D V520019E V520020A V520020B V520020C V520020D
V520020E V520021A V520021B V520021C V520021D V520021E V520027A
V520027B V520027C V520027D V520027E V520028A V520028B V520028C
V520028D V520028E V520029A V520029B V520029C V520029D V520029E
V520030A V520030B V520030C V520030D V520030E

APPENDIX B NEWS MEDIA USE VARIABLES

2004: V043014 V043019
2000: V000329 V000335
1996: V960242 V960246
1992: V900071 V900072
1988: V880128 V880130
1984: V840727 V840729
1980: V800749 V800760
1976: V763604 V76364
1972: V720456 V720463
1968: V680292 V680303
1964: V640279 V640284
1960: V600190 V600193
1956: V560196 V560199
1952: V520174 V520175

APPENDIX C ICS CONSTRUCTION

“To calculate the Index of Consumer Sentiment (ICS), first compute the relative scores (the percent giving favorable replies minus the percent giving unfavorable replies, plus 100) for each of the five index questions (see x1 ...x5 listed below). Round each relative score to the nearest whole number. Using the formula shown below, sum the five relative scores, divide by the 1966 base period total of 6.7558, and add 2.0 (a constant to correct for sample design changes from the 1950s).”

$$ICS = (X_1 + X_2 + X_3 + X_4 + X_5) / 6.7558 + 2.0$$

Index Questions

The Index of Consumer Sentiment (ICS) is derived from the following five questions:

x1 = "We are interested in how people are getting along financially these days. Would you say that you (and your family living there) are better off or worse off financially than you were a year ago?"

x2 = "Now looking ahead--do you think that a year from now you (and your family living there) will be better off financially, or worse off, or just about the same as now?"

x3 = "Now turning to business conditions in the country as a whole--do you think that during the next twelve months we'll have good times financially, or bad times, or what?"

x4 = "Looking ahead, which would you say is more likely--that in the country as a whole we'll have continuous good times during the next five years or so, or that we will have periods of widespread unemployment or depression, or what?"

x5 = "About the big things people buy for their homes--such as furniture, a refrigerator, stove, television, and things like that. Generally speaking, do you think now is a good or bad time for people to buy major household items?"