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**Wall Street, Main Street, and Pennsylvania Avenue:
The Effect of Stock Ownership on Political Behavior
in the U.S.**

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by

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DISSERTATION

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Dedicated to Addie, Ewan, and my parents.

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Wall Street, Main Street, and Pennsylvania Avenue: The Effect of Stock Ownership on Political Behavior in the U.S.

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Shinya Wakao, Ph.D.
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Supervisor: Robert C. Luskin

This dissertation examines the effect of stock ownership on individuals' political behavior. I analyzed not only individual-level data to examine the effect of stock ownership on their economic knowledge and policy preferences but also macro-level data to analyze the change of ideology and relationship between presidential approval rate, macroeconomic indicators such as stock market indexes, unemployment rate, inflation rate, and consumer confidence. Additionally, I analyzed how the media treated stock market news *politically* over the past three decades. To understand how the traditional media treats Wall Street news over the decades, I analyzed the *New York Times* from 1981 to 2012 and *USA Today* from 1991 to 2012 by *Wordfish* and topic models and found that Wall Street news became political news, especially during the economic crisis and presidential election years.

Despite conservative policy analysts predicting that owning stocks makes people's political behavior change and that stockowners will support the Republican

Party, I find that the effect of stock ownership is different between direct and indirect stockowners. Because a lot of indirect stockowners own stocks just because their companies provided employees stock-related products such as a 401(k) as part of their benefits, indirect stockowners are less active than direct stockowners in terms of their financial managements. The policy attitudes are also different depending on the policies themselves. That is, the stockowners' effect is *conditional*. I also find that even though stockowners are familiar with the current stock market conditions, their knowledge about other macroeconomic indicators at is the same level as non-stockowners.

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Chapter 1

Introduction

Now you're not naive enough to think we're living in a democracy, are you buddy? It's the free market. And you're a part of it. You've got that killer instinct. Stick around pal, I've still got a lot to teach you.

– Gordon Gekko, *Wall Street*¹ (1987)

Film critic Molly Haskell says film reflects society. In her book, *From Reverence to Rape: The Treatment of Women in the Movies*, she describes how women's roles in film have changed over time because women's roles in our society have changed.

In accordance with the expansion of financial industries in the U.S. and the change of the relationship between Wall Street and Main Street, Hollywood produced different films. There are three stages of Wall Street in films – (1) separation of Wall Street and Main Street in the 1980s; (2) crossing Wall Street and Main Street until 2007; and (3) influence of the financial crisis on Main Street after 2008.

In Oliver Stone's *Wall Street* (1987), working on Wall Street means high salary, high status, and risky activities. In the film, Bud Fox, who grows up in a

¹Dir. Oliver Stone. Perf. Michael Douglas. 20th Century Fox. Film.

blue-collar family, wants to be successful on Wall Street like Gordon Gekko. During that period, Wall Street existed in a different world, where people on Main Street did not recognize that they were part of Wall Street.

After the good performance of the stock market from the 1990s to the mid-2000s, Wall Street became a part of Main Street. More than 50% of U.S. families owned stocks directly or indirectly. Even for people who did not trade stocks directly, many companies switched to provided retirement plans from the traditional pension plan to retirement accounts like 401(k). Attitudes toward Wall Street changed in Hollywood as well. For example, *The Pursuit of Happyness* (2006), which is based on the real story of a stockbroker Christopher Gardner, shows working on Wall Street as a great example of the American dream.

Positive attitudes toward Wall Street disappeared from films after the financial crisis in 2008. Two decades after *Wall Street*, Oliver Stone filmed *Wall Street: Money Never Sleeps* (2010) which describes a cause and process of the financial crisis. Political scientist Charles Ferguson's Oscar winning documentary film *Inside Job* (2010) took a lot of interviews from key personnel in Wall Street, Washington, and academics to criticize the relationship between financial industries, politics, and academics that induced the crisis.

1.1 Wall Street on Main Street

1950s to 1980s: Separation between Wall Street and Main Street

Owning stocks used to be a financial activity among limited citizens. In 1952, only 4.2% of U.S. citizens owned public companies' stocks (Kimmel, 1952). Who are

they? According to Kimmel (1952), 53.8% of stockowners were over 50 years old, an age cohort which was 19.9% of total population. In terms of family income, 21.5% of stockowners had more than \$10,000 of annual family income, which is 3.7% of population.

Ten years after Kimmel's report, *Survey of Financial Characteristics of Consumers* conducted by the Federal Reserve Board shows that 18% of U.S. citizens owned stocks in 1962 (Projector, 1964). Median family income in 1962 was \$6,000 a year (U.S. Department of Commerce, 1963). On the other hand, 16% of families making between \$5,000 to \$7,499 a year owned stocks while 98% of families making more than \$100,000 a year owned stocks.

Stock ownership did not increase dramatically the next two decades. Stock ownership in 1970, 1977, 1983, and 1989 were 25%, 25%, 19%, and 19% of families, respectively (Avery et al., 1984; Kennickell and Shack-Marquez, 1992). A possible reason for the decline of stock ownership in the early 1980s was "a decline in the popularity of stock mutual funds and investment clubs as well as by the lackluster performance of the stock market during most of the 1977-83 period" (Avery et al., 1984).

1990s to Before the Financial Crisis: Increase of Indirect Stock Ownership

One of the significant changes in the 1990s is the addition of indirect stock owners, those who do not trade individual stocks directly but own mutual funds. In 1989, 7.1% of families owned mutual funds, and the percentage of mutual funds ownership reached 11.2% in 1992. Kennickell and Starr-McCluer (1994) point out

this phenomena as the sequence of events in the decline of interest rates on certificate of deposits (CDs) and people transferring their assets from CDs to mutual funds. In addition to the increase of mutual funds ownership, direct stock ownership also increased from 16.2% in 1989 to 17.8% in 1992. In sum, 21% of families owned stocks directly and/or indirectly in 1992.

Another reason for the increase of indirect stock ownership is that many companies switched providing pensions from traditional pension plans to pension accounts such as 401(k). From 1989 to 1992, retirement account ownership increased from 18.8% to 22.7% (Kennickell and Shack-Marquez, 1992). In 1995, more than 41% of families owned stocks directly or indirectly.

Despite increase of indirect stock ownership in this period, direct stock ownership did not change. Direct stock ownership dropped during the mid-1990s – 16.9% and 15.3% in 1992 and 1995, respectively (Kennickell, Starr-McCluer and Sunden, 1997) but increased again in the late 1990s – it was 19.2% in 1998 (Kennickell, Starr-McCluer and Surette, 2000) and reached 21.3% in 2001, but dropped to 20.7% in 2004 and 17.9% in 2007.

After the Financial Crisis

After the financial crisis in 2008, direct stock ownership dropped sharply while those who invest their money in the stock market via retirement accounts have been increasing. In 2010, 15.1% of U.S. families own stocks directly and 50.4% of families have retirement accounts (Bricker et al., 2012). In sum, stock ownership *per se* has been increased over the past three decades, but most increase is due to indirect stock

ownership.

1.2 Wall Street on Pennsylvania Avenue

There were three important factors that promoted the close relationship between middle-class people and the stock market: (1) the decline of trading cost by online trading; (2) evolution of retirement accounts in the stock market and market-friendly tax reforms; (3) deregulation of financial industries. In addition, I argue that the rise of Wall Street was not an ideological but a bipartisan effort although the Congress has been ideologically polarized.

Because of the growth of the Internet, many companies have made online trade services available. Before the existence of online trade, people had to call up brokerage to ask them to buy or sell stocks on the phone. However, using the online trading service, people can trade stocks by themselves online everywhere via the Internet. During the 1990s, many companies started online trade services.² In addition to the information from the Internet, business news became part of the main news in media. Some business news cable channels such as CNBC and Bloomberg Television started in the 1990s.

Another important change was the evolution of retirement accounts in the stock market. The Employee Retirement Income Security Act of 1974 (ERISA) created an Individual Retirement Account (IRA) and the Revenue Act of 1978 added

²K. Aufhauser & Co., Inc started the first internet trading service. <http://www.tdameritrade.com/history.html>. On the other hand, E*TRADE was founded in 1992 and went to public in 1996. <https://us.etrade.com/e/t/home/aboutus>.

Section 401(k) to the Internal Revenue Code. Moreover, not only traditional stock brokers but also commercial banks and new online-stockbrokers started many services and selling new products with low trading fees. Since the Glass-Steagall Act (the Banking Act of 1933), the federal government has prohibited commercial banks from dealing with products related to the stock markets. However, the Congress passed and signed the Gramm-Leach-Bliley Act (the Financial Services Modernization Act of 1999) to repeal part of the Glass-Steagall Act.

Wall Street also became an important actor politically. Conventional wisdom says that U.S. political parties are distinguishable by their economic policies: the Republican Party prefers pro-business policies while the Democratic Party prefers policies to protect unions, blue-collar workers, and low income families. Study of U.S. Congress argues that members of Congress have been ideologically polarized during the last few decades (Theriault, 2008). To show the ideological polarization in Congress, scholars use Poole and Rosenthal's DW-NOMINATE score. In their seminal work *Congress: A Political-Economic History of Roll Call Voting*, Poole and Rosenthal (1997) show that ideology of members of Congress can be located in two-dimension space by DW-NOMINATE score. The first dimension of DW-NOMINATE represents "conflict over the role of government in the economy." The topics related to financial industries such as regulation of financial industries and personal finances are purely economic issues. Therefore, if we check the roll call vote records related to Wall Street and key members of Congress's DW-NOMINATE score, we might be able to understand the relationship between Congress and Wall Street. In other words, we can hypothesize that Wall Street would have been regulated when Congress

was controlled by the Democratic Party while it would have been deregulated when Congress controlled by the Republican Party because members of Congress have been ideologically polarized. In reality, however, is not so simple. The financial industries have been deregulated and Wall Street has been supported by not only the Republican Party but also the Democratic Party (McCarty, Poole and Rosenthal, 2013).

Deregulations of the Banking and Financial Industries

After the Stock Market Crash of 1929 and the Bank Crisis of 1933, the federal government needed to regulate the banking industries and increase the power of Federal Reserve Board (FRB). Senator Carter Glass (D-VA) and Congressman Henry Steagall (D-AL) sponsored the bill that introduced the separation of commercial and investment banking and the creation of the Federal Deposit Insurance Corporation (FDIC) for insuring bank deposits. President Franklin D. Roosevelt signed it into law on June 16, 1933.

In the 1980s and the 1990s, the banking industry and conservative policy analysts wanted to repeal the Glass-Steagall Act to expand their services (Laffer, 1991). If the law was repealed and deregulated, commercial banks could expand to the securities and insurance businesses in order to provide one-stop shopping for financial services. The advocates of the repeal of Glass-Steagall Act claimed that the deregulation and diversifying of the banks' financial activities would reduce the costs, increase competition, and spread out the risks.³ November 20, 1987, the Chair of the

³Alfred Brittain III. September 15, 1986. "Golden Goose of Investment Banks." The *Washington*

Senate Banking Committee William Proxmire (D-WI) and the previous Chair of the Senate Banking Committee Jake Garn (R-UT) introduced the Proxmire Financial Modernization Act of 1988 to repeal the Glass-Steagall Act and it was passed by the Senate with bipartisan support (94-2) on March 30, 1988, but never passed by the House.⁴

In the 106th Congress, the Financial Service Modernization Act of 1999 was introduced by senator Phil Gramm (R-TX) on April 28, 1999 and passed by the Senate on May 6 (54-44). On the other hand, the House version of the Financial Services Act of 1999 was passed with a bipartisan support (343-86, including 138 of Yea from the Democrats). The revised bill was passed by the Senate (90-8) and the House (362-57) on November 4, 1999.

Individual Retirement Account

The other change was the increase of the incentives for citizens to invest their retirement money in the stock market. Since the 1970s, the government changed tax codes to give incentives to companies and citizens to manage retirement money in the stock market. I overview how two retirement accounts – individual retirement account (IRA) and 401(k) – have developed and made the distance closer between the stock market and U.S. citizens.

The origin of the Individual Retirement Account (IRA) was in the Employee Retirement Income Security Act of 1974 (ERISA). The bills were passed in the House

Post, pp. A15

⁴<http://thomas.loc.gov/cgi-bin/bdquery/z?d100:S.1886:@@R>

(407-0) and Senate (85-0) unanimously on August 20 and 22, then signed into law by President Ford on September 2nd. By this law, individuals could contribute up to \$500 a year as tax deductible to their IRA.

The second evolution of IRAs was by the Economic Recovery Tax Act of 1981 (ERTA). This bill was also passed by bi-partisan support in both chambers (House 282-95; Senate 67-8). There are three changes for IRAs by this law: (1) The maximum of yearly contribution had increased to \$2000 a year, (2) it allows spouses to contribute up to \$250 a year, and (3) all taxpayers under 70 years old can contribute.

The next change happened with the Taxpayer Relief Act of 1997 under the Clinton administration. The House and Senate passed the bill by 389-43 and 92-8. The largest change by this bill is the creation of the Roth IRA, which has fewer restrictions and requirements than a traditional IRA. In addition, a nonworking spouse or an employed spouse who is not covered by a pension plan can contribute up to \$2,000 per year to an IRA.

401(k)

The name of 401(k) stems from the section number of tax code and it was added by the Revenue Act of 1978. Traditionally, companies provided employees retirement plans. For example, retired employees had the right to receive 70% of income after their retirement for their entire retirement life. However, it was a significant financial burden for employers. On the other hand, under 401(k) plans, employers pay a certain percent of income as retirement benefit. Employers propose

some options for how employees manage the money in their 401(k) accounts. In many cases, a 401(k) is managed as mutual funds. In other words, many 401(k) owners invest their retirement money in the stock market. The advantage of a 401(k) is that an employee can choose how to manage their retirement money. The other benefit is that when employees change their jobs, they can keep their 401(k) account and continue to manage it in the stock market. When the economy is good and the value in the stock market increases, employees can increase their retirement money. At the same time, there is a risk to lose money when the stock market declines. Indeed, after the financial crisis of 2008, many retired Americans lost their retirement money because they own financial assets as 401(k) and the stock market declined drastically. The opponents of 401(k) argue that a 401(k) provides benefits only for employers because the total costs of 401(k) plans for employers are much less than those of the traditional retirement plans.

The bills for the Revenue Act of 1978 were passed in the House (337-38) and the Senate (72-3) with bipartisan supports. There were two developments of 401(k) during the Reagan administration: by the Deficit Reduction Act of 1984 (House 268-155; Senate 83-15) and the Tax Reform Act of 1986 (House 292-136; Senate 74-23). The third development happened by the Small Business Job Protection Act of 1996 (House 354-72; Senate 76-22) during the Clinton administration and the Economic Growth and Tax Relief Reconciliation Act of 2001 (House 240-154; Senate 58-33) during the Bush administration.

Taxation Policies: Taxes of Stock Dividends and Capital Gains

From the early 20th century to 1921, there was no specific tax for capital gains. Those who profited by their assets paid tax at ordinal tax rates. The Revenue Act of 1921 created the first tax rates for capital gain. By this Act, those who profited by assets that they owned for at least two years had to pay capital gain tax with a 12.5% rate. The large reform for capital gain tax occurred with the Tax Reform Act of 1969 and 1976. The rate increased by 28% in 1978 then decreased by 20% in 1981. However, the Reagan administration increased the rate by 28% by the Tax Reform Act of 1986. President Clinton signed the Taxpayer Relief Act of 1997 on August 5, 1997. By this Act, gains by selling certain small business stock held more than six months became tax free if the seller reinvests the proceeds in small business stock. The maximum rate of capital gain tax rates went from 28% to 20%. Lastly, the Bush administration dropped the rate to 15% in 2003.

Ideological Distribution on Pro-Wall Street Policies

Wall Street has expanded their business during the past decades partly because they received bipartisan support for deregulation and expanding their business from Congress and the White House. If both parties promoted policies to make American society a market-centered society, we would find evidence for bipartisan support on the floor of the Congress. Figure 1.1 shows members of Congress's voting behavior on the final vote for each bill and their ideological locations. The position of each dot on the x-axis in Figure 1.1 shows each member's ideological location (DW-NOMINATE score) and a blue-dot represents support of the bill (Yea) and a

red-dot represents they opposed the bill. It is clear that the introductions of the IRA and 401(k) that promoted an increase of indirect stock ownership received bipartisan support. The Gramm-Leach-Bliley Act to repeal the Glass-Steagall Act also received bipartisan support in both houses. On the other hand, the capital gains tax cut in 2003 (JGTRRTA) was passed by partisan and ideological support.

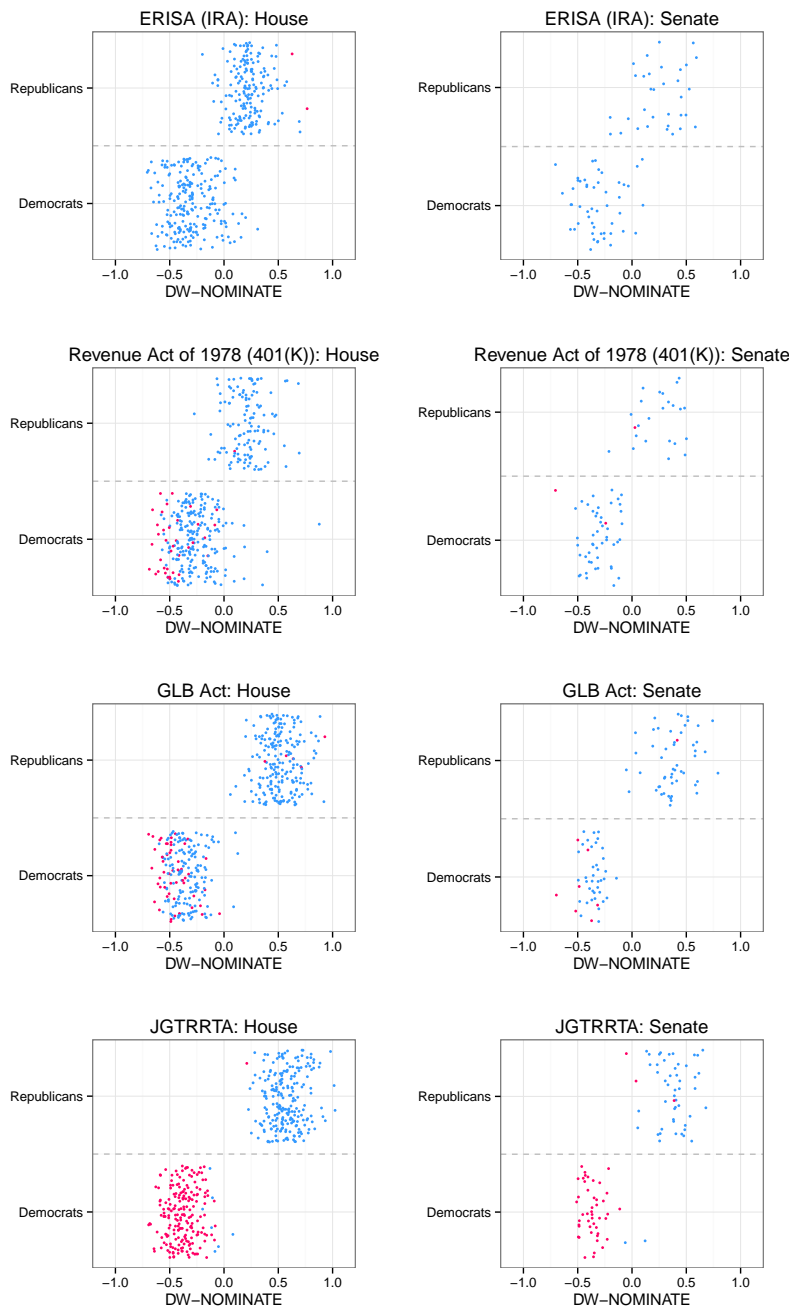


Figure 1.1: Roll call votes for the stock-related bills

Campaign Contributions from Wall Street

How much money did Wall Street donate to candidates and parties? Does the donation affect policy making? Answering this question is not within the scope of my dissertation. Yet it is important to know how much money Wall Street contributed to both parties because companies believe contributions would affect policy making, so they provide candidates and parties financial support.

According to the data from the Center for Responsive Politics,⁵ securities and investment companies donated money not only to the Republican Party but also the Democratic Party every election cycle from 1989-1990 to 2011-2012. Additionally, these companies donated more money to the Democratic Party than the Republican Party during the 1991-1992 and 2007-2008 election cycles, which were the periods that the Democratic Party controlled both houses. If we see the same data in terms of average contributions to members in the House and the Senate, the Senate Democrats received more than the Senate Republicans but the gap is large from 2001-2002 to 2009-2010. In sum, securities and investment companies provide financial support to political parties and politicians independently of party label or their ideology because the goal is not to make ideological connections with politicians but to protect industries from regulations, expand business, and increase profit.

Commercial banks are another key industry on Wall Street but their political behavior via contribution is different from securities and investment companies. Commercial banks have financially supported the Republican party more than the

⁵<http://www.opensecrets.org/industries/indus.php?ind=F07>

Democratic Party over the past twenty years. From 1995-1996 to 2005-2006, commercial banks provided more than \$10 million during every election cycle. Around the financial crisis, commercial banks increased the amount of contributions to the Democratic Party rapidly. They provided \$18.6 million to the Democratic Party and \$20 million to the Republican Party. The gap between contributions was the largest during the 2011-2012 election cycle. The increased the amount of contribution to the Republican Party doubled from the 2009-2010 to 2011-2012 election cycles.

If we break down the data into the average contribution to members in the House and the Senate, we can see the significant difference of contribution activities clearly for the House members from 1995-1996 to 2011-2012 while there was no difference for the Senate Democrats and Republicans except during the 2007-2008 cycle. On average, the House Republicans received \$36,000 while the House Democrats received \$15,550 from commercial banks during the 2011-2012 cycle. During the same period, the Senate Republicans received \$40,650 and the Senate Democrats received \$41,010 on average.

Monday Morning Quarterback: After the Financial Crisis in 2008

The financial crisis in 2008 changed citizen's attitudes toward the stock market. As we see in the previous section, some people quit trading stocks and left Wall Street. Those who invested their money for their retirement needed to change their financial plan after their retirement because their 401(k) shrank.

In order to bailout the financial industries, President Bush asked Congress to pass the bailout bill. However, the House rejected the bill (H.R.3997, the Defenders

of Freedom Tax Relief Act of 2007) on September 29, 2008 by 205-228. After the rejection, the stock market reacted sensationally and Dow Jones dropped 777 points. The Senate passed a similar bill (HR.1424) on October 1 and then the House passed it on October 3.

The financial crisis changed candidates' attitudes toward Wall Street as well. More precisely, they emphasized the relationship between their opponents and Wall Street negatively. For example, 75 House Democratic candidates and 36 House Republican candidates included Wall Street as topics into their campaign advertisements and posted to their websites during the 2010 midterm elections. The total numbers of advertisements were 121 among the Democrats and 48 among the Republicans. The main topic among the Democrats was criticizing their opponent's support for privatization of Social Security during Bush administration while Republican candidates criticized the support for the bailout bill.⁶

During the first presidential debate on October 3, 2012, the moderator Jim Lehrer asked both candidates a question about their idea for the level of federal regulation of the economy. The Republican candidate Mitt Romney answered that "Regulation is essential. You can't have a free market work if you don't have regulation. As a businessperson, I had to have – I need to know the regulations. I needed them there. You couldn't have people opening up banks in their – in their garage and making loans. I mean, you have to have regulations so that you can

⁶I visited all Democratic and Republican House candidates' websites and collected their campaign advertisements. The research was funded by a research grant from the Konosuke Matsushita Memorial Foundation. http://matsushita-konosuke-zaidan.or.jp/en/works/research/promotion_research_02_2010.html

have an economy work. Every free economy has good regulation. At the same time, regulation can become excessive.⁷

About a year ago, however, the Republican Party tried to avoid regulating Wall Street. Since President Obama went to the White House in 2009, Democrats tried to regulate financial industries to avoid another crisis in the future. On December 2, 2009, Barney Frank (D-MA) introduced the Wall Street Reform and Consumer Protection Act of 2009 (H.R. 4173). The House passed (223-202) on December 11 then the Senate passed with amendment on May 20, 2010. After the agreement at the conference committee in June, the House (237-192, June 30, 2010) and Senate (59-39, July 15, 2010) passed the bill and it was signed into law by Obama as the Dodd-Frank Wall Street Reform and Consumer Protection Act. The roll call vote for the Dodd-Frank bill was divided by party lines in both houses. Most of the members who were in disagreement with their own party are ideologically moderate in both houses.

1.3 About This Dissertation

The main goal of this dissertation is to investigate the effect of stock ownership on individuals' political behavior. To do so, I analyzed not only individual-level data to examine the effect of stock ownership on their economic knowledge and policy preferences but also macro-level data to analyze the change of ideology and relationship between presidential approval rate, macroeconomic indicators such as

⁷General Election Presidential Debate, October 3 2012. Commission on Presidential Debate, <http://www.debates.org/index.php?page=october-3-2012-debate-transcript>

stock market indexes, unemployment rate, inflation rate, and consumer confidence. Additionally, I analyzed how the media treated stock market news *politically* over the past three decades.

Despite that conservative policy analysts predicted that owning stocks makes people's political behavior change and that stockowners will support the Republican Party, I find that the effect of stock ownership is different between direct and indirect stock ownership. Because a lot of indirect stockowners own stocks just because their companies provided employees stock-related products such as a 401(k) as part of their benefits, indirect stockowners are less active than direct stockowners in terms of their financial managements. I also find that even though stockowners are familiar with the current stock market conditions, stockowners' knowledge about other macroeconomic indicators is the same as non-stockowners.

Chapter 2

Background

In this chapter, I first summarize the arguments by the investor class theory and their assumptions. Then I summarize previous studies in political science in order to clarify what we already know. Finally, I summarize my arguments and hypotheses for empirical analyses in this dissertation.

2.1 Investor Class Theory

In accordance with the increase of stock ownership among the middle class and the rise of the stock market in the late 1990s, conservative strategists and policy analysts started arguing the political effects of stock ownership. Lawrence Kudlow, a former associate director for economics and planning in the Office of Management and Budget during the Reagan administration, was the first person who innovated the term “investor class” in the late 1990s (Glassman, 1999). The investor class theory argued that this class prefers more economic freedom, deregulation, and less governmental spending, and moreover, they vote for their interests. Yet on the Election Day in 1998, Kudlow (1998) claimed that “[t]he emergence of a powerful investor class ... is poorly understood by politicians and pundits alike.” After the election, Kudlow (1998) analyzed the 1998 midterm elections, stating “Republicans

were unable to enhance their power because they broke their promise to rebate the budget surplus in the form of across-the-board tax relief ... So marginal investor class voters stayed home.”¹

Kudlow is not the only person who assumes that people in the investor class prefer free-market and deregulation policies, leading them to vote for the Republican Party. Glassman (1999) argues that “middle-class Americans are becoming shareholders and leaning toward market-oriented policies as a result” and “more importantly, the Investor Class will undoubtedly be more sympathetic to lower corporate taxes, less business regulation, freer trade, and less restrictive environmental and antitrust policies.”

The investor class theory advocates mention that there are two characteristics of new investors. First, new stockowners are “among every age group, income bracket, racial cohort, and occupational category (Nadler, 1999). Nadler (1999) called this group “worker capitalist” and showed that 50% of stockholders had household incomes of \$50,000 or less, 23% of householders younger than 25 owned mutual funds, farmers, laborers, and housewives had above-average rates of growth in stock ownership, and 21% of black respondents owned more than \$5,000 of stocks or mutual funds. Second, the main reason for the rise of stock ownership is that people own stocks as retirement plans such as 401(k) and mutual funds.

There is little academic work that supports the investor class theory. As an exception, Duca and Saving (2008) applied time series analysis with equity mutual

¹Ibid.

fund costs as a proxy for discontinuous stock ownership rate and found that the rise of stock ownership has a positive impact on shares of the House popular vote for the Republican Party since 1980. Duca and Saving (2008) argue that the link between property ownership and voting is a classic argument, since the 1787 constitutional convention regarding George Mason’s proposal that owning land be required for Senators in order to secure the rights of property. Moreover, Duca and Saving (2008) argue that gap between the Democratic Party and the Republican Party on wealth issues is the traditional and positive relationship between stock ownership and support for Republican Party, as part of American political tradition.

In order to understand the causal relationship that the investor class theory describes between stock ownership and political influence, I summarized their arguments in Figure 2.1.²

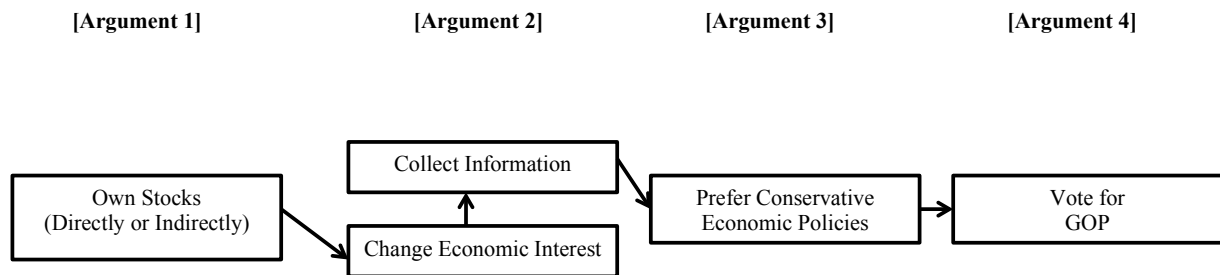


Figure 2.1: Investor class theory

Argument 1: The Rise of Stock Ownership – The most important argument in investor class theory is that the rise of the stock market has occurred among

²created by author based on the investor class theory and Richardson (2010, p137).

middle-class people regardless their age, race, or gender (Nadler, 1999; Kudlow, 1998). Moreover, the theory advocates expect that this trend will continue in the future. In other words, the investor class theory does not expect that some stockowners may leave the stock market. In addition, the advocates know that the main reason for the rise of stock ownership is not from direct ownership but indirect ownership. That is, people invest money into the stock market for their retirement plans such as 401(k), IRA, and mutual funds. Most importantly, the advocates do not distinguish the effects between direct and indirect stock ownership. They assume that stockowners' *political* behavior is the same between day traders and those who receive 401(k) from a company as a benefit and never trade stocks by themselves.

Argument 2: Stockowners Change Their Economic Interest – Investor class theory assumes that once people have owned stocks, they would change their economic interests. Because their money is in the stock market, stockowners try to maximize their financial benefit. To do so, stockowners are interested in stock-related news and information. Stockowners watch business television programs such as CNBC and Bloomberg or read the Wall Street Journal, Forbes, and Business Week (Nadler, 1999).

Argument 3: Stockowners Prefer Fiscal Conservative Policies – In order to maximize their profit, stockowners change their economic self-interests. They prefer low taxes, free-market and deregulation policies (Glassman, 1999).

Argument 4: Stockowners Vote for the Republican Party – Stockowners'

policy preferences are in accordance with policies from the Republican Party. Therefore, stockowners vote for the Republican Party in elections (Glassman, 1999; Duca and Saving, 2008).

2.2 What We (Political Scientists) Know

Although investor class theory advocates expect that owning stocks changes their political behavior, Glassman (1999) said “owning stock can change your political outlook – not radically, but at the margin.” Even so, previous studies in political science and other data show that some of these arguments might be invalid. In this section, I will summarize what we (political scientists) know about the relationship between self-interest and political behavior.

2.2.1 Party Identification

Change of party identification is produced by personal and social forces (Campbell et al., 1960). Personal forces include marriage, a new job, and moving to a new location. These social milieus provide pressure to change an individual’s party identification. However, Campbell et al. (1960) found that a very small number of respondents in their survey changed their party identification in their lifetime because of personal forces. Examples of social forces that made voters change their party identification were the Homestead Act of 1862, the New Deal, and the civil rights movement. Campbell et al. (1960) claimed that the impact of these events were strong among the youth, economically underprivileged and minority groups.

Yet Campbell et al. (1960) claims that people establish their party identifi-

cation early in life and keep their party loyalty through adulthood. Bartels (2002) supports the arguments regarding the importance of party identification and emphasizes that people not only keep their party identification but also perceive political phenomena through partisan lenses hence there is a partisan bias and it reinforces the differences in opinion between Democrats and Republicans.

The “spiraling effect of political reinforcement” (Berelson, Lazarsfeld and McPhee, 1954) explained how people manage new information and reinforce their party identification. Berelson, Lazarsfeld and McPhee (1954) argue that people only perceive favorable information for their party and are less likely to perceive “uncongenial and contradictory events or points of view.” As a result, people are less likely to revise their own original political position.

Instead of resisting or ignoring unfriendly new information (Berelson, Lazarsfeld and McPhee, 1954), Gerber and Green (1999) explain the information process with the Bayes’ rule. Democrats, Republicans, and Independents update their attitudes with the same directions and similar magnitudes simultaneously. Although the mechanisms of updating information are different between Berelson, Lazarsfeld and McPhee (1954) and Gerber and Green (1999), both arguments claim that prior information or party identification is stable and has an important role for evaluating policies and administrations.

Other scholars argue the instability of party identification. Rational choice theorists explain that people make their vote choice in order to maximize their utilities (Downs, 1957). Fiorina (1981) emphasizes past experience and explains that people evaluate candidates and parties *retrospectively* then choose how they will

vote. According to Fiorina, party identification is “a running tally of retrospective evaluations of party promises and performance (Fiorina, 1981, p84).”

Investor class theorists expect that people change their party identification based on their past experience and expectations of the future in terms of capital gains tax rate and stock market performance. Moreover, many investor class theorists do not assume the possibility of better market performance during Democratic administrations because many arguments about investor class theory were published during the Bush administration from 2000 to 2008.

2.2.2 The Role of Self-interest

Self-interest is a principle role for rational choice theory, which assumes that people support policies and choose candidates based on their own self-interest (Downs, 1957) in order to maximize their utility. Sears and Funk (1990) define self-interest as “(1) short-to-medium term impact of an issue (or candidacy) on the (2) material well-being of the (3) individual’s own personal life (or that of his or her immediate family).” When the magnitude of the policy is significant, self-interest has influence over policy preference (Sears and Funk, 1990; Green and Gerken, 1989) such as tax cuts (Sears and Citrin, 1985), restriction and taxation of cigarettes (Green and Gerken, 1989), and gun control (Wolpert and Gimpel, 1998).³

Yet other studies reported that self-interest has a minimal effect on political behavior. Instead, symbolic beliefs such as party identification and ideology have a

³For a summary of the previous study, see (Sears and Funk, 1990).

significant role in voting. Previous studies show the role of symbolic belief in many policy domains including personal finance (Sears et al., 1980; Sears and Citrin, 1985; Lau and Sears, 1981), education (Sears and Citrin, 1985; Huddy and Sears, 1995), race and affirmative action (Sears, Hensler and Speer, 1979; Sears et al., 1980; Kinder, 1986), and the military (Lau, Brown and Sears, 1978). Although the coefficients were small, Sears and Funk (1990) summarized that self-interest related to the economy in ways such as unemployment, inflation, and tax policy in affecting the individual's political attitudes. Among four types of self-interest respondents, taxpayers, the economic discontented, public employees, and the recipients of various government services, the taxpayers "held quite consistently self-interested political preferences" (Sears and Funk, 1990, p155).

In terms of self-interest and voting, a previous study about *pocketbook voting* shows self-interest has a weak effect. Although Kramer (1971) claimed the effect of personal economic well-being on voting, *pocketbook voting* hypothesis was challenged by the *sociotropic voting* hypothesis by Kinder and Kiewiet (1979, 1981) and other studies (Kiewiet, 1983; Lewis-Beck and Rice, 1992; Lewis-Beck, 2006; Lewis-Beck and Stegmaier, 2007). Sears and Lau (1983) criticized that findings of *pocketbook voting* is artifactual by the questionnaire of the survey. Other studies find that neither experience of unemployment (Kiewiet, 1983; Schlozman and Verba, 1979) nor inflation (Kiewiet, 1983; Lau and Sears, 1981) has a strong impact on voter's choice in elections. Feldman (1982) finds that the nonexistence of *pocketbook voting* is due to people's belief in economic individualism. That is, not the government but individuals have responsibility for personal economic well-being.

To my knowledge, there are few studies that examine the effect of stock ownership on political behavior. In his dissertation work *Financial Stocks and Political Bonds: Stock Market Participation and Political Behavior in the United States and Britain*, Richardson (2010) examines the relationship between stock ownership and political behavior at the individual level. Using the data from United States and United Kingdom, Richardson analyzed the effect of stock ownership on partisanship, political participation, and policy attitudes and concludes that “I find no evidence to support the argument that stock market participation has any causal effect on partisanship, participation, or political attitudes.” In order to analyze the stock ownership effect on political participation and party identification in the U.S., Richardson used the 2000-2002 panel data from the American National Election Studies (ANES). The problem of data from the ANES is that they do not distinguish between direct stockowners and indirect stockowners. As investor class theory says, if researchers assume the stockowners effect between direct and indirect stockowners is the same, we can use the ANES data. However, we do not know whether these two groups’ political behavior is the same. Rather, I claim that direct stockowners have a higher motivation than indirect stockowners to collect economic information in order to make a profit. I also expect that direct stockowners have a higher self-interest than indirect stockowners. If so, it is crucial to distinguish these two groups when we analyze the effect of stock ownership on political behavior.

Table 2.1: Relationship between self-interest and symbolic beliefs

	Policy has been proposed by own party	Policy has been proposed by opposite party
Personal benefit from policy is not clear	[B] Support by PID	[A] Oppose by PID
Personal benefit from policy is significant	[C] Support	[D] Conflict

Table 2.1 shows the relationship between self-interest and symbolic beliefs. According to the existing study, symbolic beliefs dominate people’s behavior regardless the origin of policies (Cell A, B, and C in Table 2.1). The question is how people behave when personal benefits from a new policy related to the stock market is significant, but the opposite party and candidates proposed the policy (Cell D in Table 1). I claim this conflict is different between direct stock ownership and indirect stock ownership because their motivation for collecting information and making a profit are larger than indirect stockowners. In other words, I expect that the stock ownership effect is not absolute but *conditional*.

2.3 Hypotheses

According to the previous studies in political science, the arguments of the investor class theory do not have enough evidence for supporting their theory. First, investor class theorists show the evidence of the stock ownership effect only by cross-tab report but do not use any statistical analyses. Second, although investor class theorists know that the rise of stock ownership mainly stem from the increase of

indirect stock ownership: those who own stocks only as mutual funds or retirement plans, investor class theorists assume that the effect of stock ownership between direct ownership and indirect ownership are same. Finally, there is no comprehensive study showing the change of relationship between the stock market and the political world.

In order to understand the relationship between the stock market (Wall Street), ordinary citizens (Main Street), and politics (Pennsylvania Avenue) comprehensively, I propose hypotheses as follow:

Hypothesis 1: Stock Market Information In accordance with the rise of stock ownership, stock market news have become political news (Chapter 3).

Hypothesis 2: Relationship between Stock Market Outcome and Presidential Approval A correlations between stock market outcome and presidential approval became higher after the 2000s (Chapter 4).

Hypothesis 3 : Economic Knowledge among Direct Stockowners The level of economic knowledge among direct stockowners is higher than indirect stockowners and non-stockowners (Chapter 5).

Hypothesis 4: Economic Knowledge among Indirect Stockowners The level of economic knowledge among indirect stockowners is the same as non-stock owners (Chapter 5).

Hypothesis 5: Policy Preference among Direct Stockowners Financial self-interest has a significant role on stock-related policy preference among direct stockowners (Chapter 6).

Hypothesis 6: Policy Preference among Indirect Stockowners Financial self-interest has a modest role on stock-related policy preference among indirect stockowners (Chapter 6).

2.4 Research Plan

In order to examine these hypotheses above empirically, I organize this dissertation as follows: Chapter 3 analyzes the relationship between stock market outcome, consumer confidence, and presidential approval rate at the aggregate-level. If the relationship between them had changed over time, it is not appropriate to use the Box-Jenkins model because the assumption about constant correlation overtime is violated. To void this methodological issue, I employed the dynamic conditional correlation (DCC) GARCH model (Engle, 2002). Chapter 4 analyzes the effect of stock ownership on policy preference: capital gain tax cut 2003, privatization of Social Security, and President Obama's tax hike proposals on income and capital gains tax among the wealthy in 2010. Chapter 5 shows how the media have treated stock market news. I especially focus on political topics in Wall Street news. I collected stock-related articles in two major newspapers - *The New York Times* and *USA Today* from the 1980s to 2012 and analyzed the latent topics by *Wordfish* (Slapin and Proksch, 2008) and the topic models (Blei and Lafferty, 2009). If stock market news were purely economic news, we would see only business and finance topics. If the media reported Wall Street in the context of politics, we might see political latent topics. In Chapter 6, I examined the effect of stock ownership on economic knowledge: Dow Jones Industrial Average (DJIA), national and state unemployment

rates, and inflation rate.

Chapter 3

Politics, Consumer Sentiment, and the Stock Market

Scowling Republicans and smiling Democrats have dominated the political news since last Tuesday's elections, but the more salient commentary is the subsequent 269-point (3 percent) rise in the Dow through last Friday's close.

– Lawrence Kudlow, November 10, 1998¹

3.1 Introduction

When the chair of the Federal Reserve Board announces a monetary policy, the media report the stock market's reaction, which is strong when the announced monetary policy is a "surprise" (Bernanke and Kuttner, 2005). The stock market reacts to political events as well. For example, the Dow Jones Industrial Average dropped 777 points after the House of Representatives rejected the bailout bill (H.R. 3997) which included a \$700 billion financial rescue package on September 29, 2008.

Conversely, does the stock market affect people's evaluations for the economy? Moreover, does the stock market affect the presidential approval rate or election out-

¹"Do no harm." *Washington Times*. November 10, 1998. A18.

comes? If people used the condition of the stock market to evaluate the economy, there would be a positive correlation between stock market returns and a consumer confidence index. The investor class theory argues that the rise of stock market performance makes people's policy preferences more conservative (Glassman, 1999). To my knowledge, however, the existing literature did not pay attention to a relationship between stock market returns and political indicators at the macro levels.

The objective of this chapter is to examine the macro-level relationship between the stock market, consumer confidence, ideology, and presidential approval. The existing study shows that there is a dynamic correlation between presidential approval rates and consumer confidence (Lebo and Box-Steffensmeier, 2008). Other studies show that consumer confidence affects the future real GDP (Howrey, 2001), forecasts future labor income growth (Ludvigson, 2004), and affects stock returns (Chen, 2011). This chapter bridges a gap between literature of presidential approval and stock market indexes.

In this chapter, Section 2 summarizes the previous studies regarding the relationship between macroeconomic indicators, consumer confidence, and political indexes as well as the expectations of the investor class theory. Section 3 shows the hypotheses, data, and methodology for the empirical analysis. Section 4 reports the results of analyses. Section 5 discusses further research.

3.2 Background

When unemployment increases, the inflation rate decreases. This inverse relationship is known as the Phillips curve (Phillips, 1958). The *partisan business*

cycle model argues that the Democratic Party and the Republican Party have different macroeconomic policies in unemployment and inflation. The Democratic Party prefers a low unemployment rate to intervene in the economic circumstances for their lower and moderate income constituencies while the Republican Party tries to suppress the inflation rate for their wealthy constituencies (Tuftes, 1978; Hibbs, 1987; Alesina and Rosenthal, 1995).

The economy is the dominant factor influencing political ideology in U.S. politics. The unemployment rate and the inflation rate affect ideology at the aggregate level as well. High unemployment and high inflation rates have negative effects on liberal *Mood* (Stimson, 1999; Erikson, MacKuen and Stimson, 2001). Durr (1993) finds that when constituencies expect a strong economy, they support liberal domestic policies whereas anticipation of declining economic condition provides for a conservative policy mood.

The election study also shows that U.S. political parties provide constituencies with different macroeconomic messages during the campaigns. The issue of ownership theory argues that each party “owns” specific issues (Petrocik, 1996): the Democratic Party owns the unemployment rate while the Republican Party owns the inflation rate. During the presidential debate, however, not only the Democratic candidate but also the Republican candidate focused more on the unemployment rate and less on the inflation rate. For example, at the presidential debates in 2012, Republican candidate Mitt Romney argued more about the unemployment rate than President

Obama.²

The macroeconomic indicators are important because constituencies use these indicators to evaluate past economic conditions, predict them, and make voting decisions. This “sociotropic voting” is the main factor among U.S. constituencies (Kinder and Kiewiet, 1979, 1981), rather than personal-level economic circumstances or “pocketbook voting” (Kramer, 1971).

Stock Market and Politics

Although the *partisan business cycle* model (Alesina and Rosenthal, 1995) did not include the stock market returns in their analyses, another study claims that stock market returns have a political cycle as well. Allvine and O’Neill (1980) claimed that stock market returns are not random and found that stock market returns have had a four-year election cycle since the 1960s because presidents have intervened in the aggregate level of economic activity. Gärtner and Wellershoff (1995) expanded the study and found the trend that the stock price fell from when the new president went to the White House to the midterm election, then peaked before the next presidential election; this pattern was consistent from John F. Kennedy to George H. Bush. Gärtner and Wellershoff (1995, p396) also found that there is no difference in this cycle between Democratic and Republican presidents. The existing literature, however, did not explain what causes the election cycle in stock returns. Regarding election outcomes and the stock market, Leblang and Mukherjee (2004, 2005) found that when investors expect that the Democratic candidate will win the presidential

²See Figure 5.1.

election, stock market volatility decreases.

As Gärtner and Wellershoff (1995) claims that we do not know the cause of the four-year election cycle in stock market returns, there is room for analyzing the relationship between the stock market and political indicators. Despite that the investor class theory argues that the increase of stock ownership has a positive effect on the Republican Party because stockowners might prefer deregulation and free-market policies (Glassman, 1999, 2000), there are no empirical studies that explain the link between the stock market and political support. In an exception that supports the investor class theory empirically, Duca and Saving (2008) found that the increase in stock ownership has a positive effect on the national share of the popular vote for the Republican Party in both the House and the Senate elections since the 1980s. Duca and Saving (2008) argue that the mutual fund revolution has contributed to the increase of votes for the Republican Party because the attitude towards asset ownership has been part of political tradition in the U.S. since the 1787 constitutional convention and there is a traditional gap between the two major parties on wealth issues. Therefore, if people own stocks, they support and vote for the Republican Party. Although Duca and Saving (2008) did not mention this clearly, there is a strong assumption in their argument that there is no difference between direct stockowners and mutual fund owners in terms of political behavior.

3.3 Hypotheses, Data, and Method

If the stock market has become an important factor in analyzing the economy in accordance with the increase of the stock ownership, many citizens might care

about stock market performance and use the stock market in order to analyze the condition of the national economy. Moreover, we would see a higher correlation between the stock market performance and consumer confidence index than before.

Analysis 1: Stock Market Returns, Inflation, Unemployment rate, and Political Ideology

Although Converse (1964) argues that the majority of U.S. citizens do not conceptualize political ideology, aggregate-level analysis shows that public ideology moves in accordance with political and social events (Page and Shapiro, 1992). Macro economics also impacts the aggregate-level ideology or *Mood*: increase of unemployment rate makes *Mood* move toward a more liberal ideology and increase of inflation makes *Mood* move toward a more conservative one (Erikson, MacKuen and Stimson, 2001).

Compared to unemployment and inflation, we know little about the relationship between the stock market and public ideology. Conventional wisdom states that fiscal conservatives prefer deregulation policies and a free-market society. Media pundits and politicians describe Wall Street as pro-business or pro-wealthy people. Therefore, it seems plausible to assume that supporting Wall Street indicates a conservative ideology. However, the state of the stock market affects personal finances among not only the wealthy but also among moderate-income people. The growth of the stock market in the 1990s has been considered the main cause of the budget surplus and the good economy. On the other hand, the financial crisis from 2007 to 2010 brought a high unemployment rate and recession. Therefore, it is possible that

both liberals and conservatives have similar attitudes towards the stock market. If so, an increase in stock returns does not affect *Mood*.

As the first analysis, I examine the effects of macroeconomic indicators and stock market index on public ideology. To do so, I replicate the analysis by Erikson, MacKuen and Stimson (2001), adding two stock market indexes, Dow Jones Industrial Average (DJIA) and Standard and Poor's 500 (S&P500). As the index for ideology, I use James Stimson's *Mood* variable.³ Erikson, MacKuen and Stimson (2001, p233) found that high inflation rate moves public ideology in a conservative direction and high unemployment rate increases liberal public ideology. According to the investor class theory, increasing stock market returns makes the public conservative (Glassman, 1999, 2000). To examine this theory, I added DJIA and S&P 500 into the equations as independent variables. Moreover, the magnitude of the correlation would become higher than it used to be. Therefore, my hypotheses in Analysis 1 are:

- *H1: The increase of the stock market index has a negative effect on liberal Mood*
- *H2: The magnitude of the impact became larger in the last decade than it used to be.*

The equation is

$$Mood_t = \beta_0 + \beta_1 Mood_{t-1} + \beta_2 Inf_t + \beta_3 CUnemp_t + \beta_4 CStock_t \quad (3.1)$$

³Data was from http://www.unc.edu/~cogginse/Policy_Mood.html

where $Mood_t$ is Stimson's *Mood* indicator at t , Inf_t is inflation rate at t , $CUnemp_t$ is the change of unemployment rate from $t - 1$ to t , and $CStock_t$ is the change of market indicator: *DJIA* and *S&P500* from $t - 1$ to t . First, I analyze equation (1) from 1956 to 1996, as did Erikson, MacKuen and Stimson (2001) by the Ordinary Least Squares (OLS) method. Second, I extend the analysis period from 1952 to 2008. Based on the results of Erikson, MacKuen and Stimson (2001), I expect that $Mood_{t-1}$ and $CUnemp_t$ have a positive effect and Inf_t has a negative effect on $Mood_t$. On the other hand, I expect that $CStock_t$ might have a negative effect on $Mood_t$ based on the presumption that the public believes that the rise in stock prices benefits only companies and wealthy people.

The conventional time series analysis has an assumption that the correlation is constant over time. In order to examine the relationship of dynamic conditional correlations between public ideology and stock returns, I employ the Dynamic Conditional Correlation Estimation by DCC-GARCH models.⁴

Stock Market

Despite media reporting more on the DJIA than S&P 500, an existing study reported that S&P 500 express the stock market conditions more accurately because DJIA includes the price-weighted average of thirty large publicly owned companies⁵ whereas S&P 500 uses a market value-weighted five hundred stock prices.⁶ I use

⁴See the next subsection for the methodology

⁵See http://www.djindexes.com/mdsidx/downloads/brochure_info/Dow_Jones_Industrial_Average_Brochure.pdf

⁶See <http://www.spindices.com/indices/equity/sp-500>

both indexes in my analysis.

3.3.1 Analysis 2: Dynamic Correlations between Stock Market Returns, Presidential Approval, and Consumer Sentiment

It is well known that the variance in stock market time series data is heteroskedastic. In order to account for the nature of the volatility of the stock market, scholars use a generalized autoregressive conditional heteroskedastic model or GARCH (p,q) in a time series analysis with stock market data. On the other hand, when we conduct time series analysis, it is assumed that the correlations between two or more time series are constant over time. However, this assumption is not realistic in many cases. For example, when DJIA has dropped significantly, other stock markets overseas have also dropped. The correlations between domestic and foreign stock markets are not constant over time. In the political context, the state of the national economy affects election outcomes significantly in some elections, but the magnitude is not constant in each election. Varying time-related relationships are difficult to analyze in economic voting theory.

A series $\{r_t\}$ is GARCH (p,q) if

$$r_t = \epsilon_t \sqrt{h_t} \tag{3.2}$$

where

$$h_t = \alpha_0 + \sum_{i=1}^q A_i \epsilon_{t-i}^2 + \sum_{j=1}^p B_j h_{t-j} \tag{3.3}$$

where α is the weighted long run variance, $\sum_{i=1}^q A_i \epsilon_{t-i}^2$ is the moving average term, and $\sum_{j=1}^p B_j h_{t-j}$ is the autoregressive term. The assumption of GARCH is constant conditional correlation (CCC). That is, the conditional covariance matrix H_t

is defined as:

$$H_t = D_t R D_t \tag{3.4}$$

where R is a $k \times k$ constant correlation matrix and D_t is a $k \times k$ diagonal matrix of conditional standardized residuals ϵ_t from GARCH. On the other hand, if the correlation is a time-varying or dynamic conditional correlation (DCC) (Engle, 2002), then R in (4) would be R_t

$$R_t = (1 - \alpha - \beta)\bar{R} + \alpha\epsilon_{t-1}\epsilon'_{t-1} + \beta R_{t-1} \tag{3.5}$$

where α and β are the DCC parameters. If $\alpha = \beta = 0$ then $R_t = \bar{R}$, which is CCC-GARCH.

The advantage to using DCC-GARCH is that it allows us to analyze data including the volatilities that have occurred during specific periods. In political science, Lebo and Box-Steffensmeier (2008) analyze presidential approval rates and the ICS from 1978 to 2004 and find that the correlations between presidential approval ratings and the ICS are not constant because of external factors, such as September 11.

On the other hand, the relationship between citizens and the stock market has changed dramatically in the last decade, and it is possible that public reaction to the stock market has changed in the last decade, too. Therefore, I assume that people became more sensitive to the rise and decline of the stock market because many people put their money in the market. For those reasons, I analyze the relationship between the stock market, consumer sentiment, and presidential approval using the

DCC-GARCH model. I hypothesize that:

- *H3: The correlations between presidential approval and consumer sentiment is time-varying*
- *H4: The correlations between presidential approval and stock return is time-varying*
- *H5: The correlations between the consumer sentiment and stock return is time-varying*

In my analyses, I use the *ccgarch* package (Nakatani, 2013) in R.

Index of Consumer Sentiment and the Consumer Confidence Index

The Index of Consumer Sentiment⁷ and the Consumer Confidence Index⁸ are widely used to measure the public's evaluation of the economy. There are two main differences between those indexes. The first is their sample size. The ICS reaches 500 respondents while the CCI reaches 5000 respondents, who are disaggregated by census regions. The second difference is their content. The ICS is composed of five questions: (1) what is your personal financial situation now and five years ago, (2) what do you expect of your personal financial situation one year from now, (3) what will be the overall financial condition of the business for the next 12 months, (4) what do you think the overall financial situation for business will be during the next five

⁷<http://www.sca.isr.umich.edu>

⁸<http://www.conference-board.org>

years, and (5) what is your current attitude toward buying major household items. On the other hand, the CCI is composed of the following five topics: (1) current business conditions, (2) business conditions for the next six months, (3) current employment conditions, (4) employment conditions for the next six months, and (5) total family income for the next six months. That is, the time range in the ICS is longer than that of the CCI.

Although many scholars have used the ICS rather than the CCI in previous political science literature (MacKuen, Erikson and Stimson, 1989; Lebo and Box-Steffensmeier, 2008), I use both indexes in my analyses for two reasons. First, the CCI has a larger sample size than the ICS. Previous literature shows that the public is not very knowledgeable about economic issues (Aidt, 2000). Moreover, their evaluation of the economy is heterogeneous (Gomez and Wilson, 2001). If income background affects economic evaluation, using a large sample can capture a more accurate evaluation of public sentiment than a small sample because the income gap has increased significantly in the past several decades (Bartels, 2008; McCarty, Poole and Rosenthal, 2006). Second, the CCI asked respondents to forecast out to the next six months while the ICS asked respondents to forecast out to one and five years. It is difficult even for economists to forecast the economy five years from now. Therefore, the questions in the CCI seem more realistic than in the ICS.

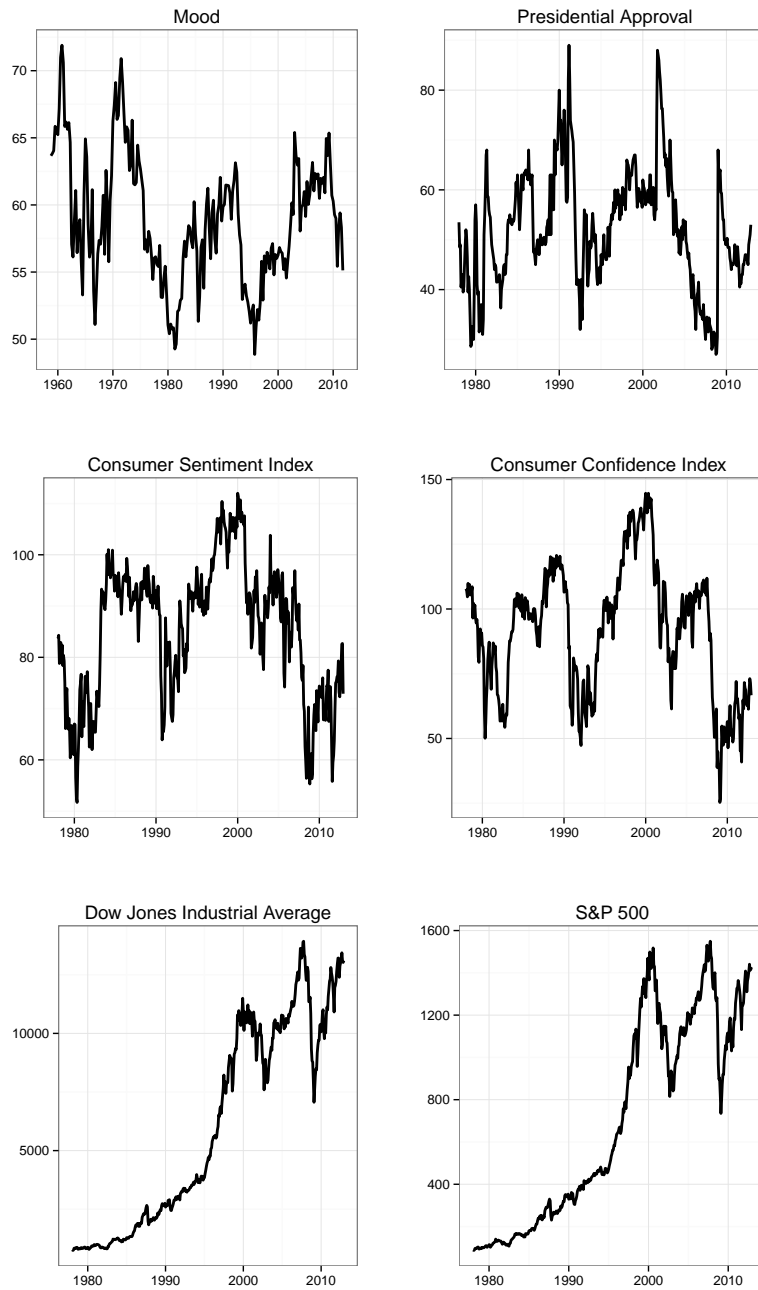


Figure 3.1: Time series data: Mood, presidential approval rate, Consumer Price Index, Consumer Confidence Index, Dow Jones, and S&P 500

3.4 Results

3.4.1 Analysis 1: Public Ideology and the Stock Market

Table 3.1 shows the results of the analysis of the impact of stock market returns on liberal *Mood* from 1956 to 1996, which is the same period as Erikson, MacKuen and Stimson (2001). The dependent variable is Stimson's *Mood* variable. I need to note here that the time period is the same but the data were updated so are different from the original analysis in Erikson, MacKuen and Stimson (2001, p233, Table 6.4). Model 2 includes a change of DJIA from the previous year and Model 3 includes a change of S&P 500 from the previous year. Δ DJIA is statistically significant with 0.1 levels with a negative coefficient, which means increase of DJIA makes *Mood* move towards conservatism but the magnitude is smaller than that of inflation. S&P 500 in Model 3, however, is not statistically significant.

Next, I extended the analysis with a longer period from 1953 to 2011 and Table 3.2 shows the results with OLS models. Neither change of unemployment rate nor change of stock market indexes have an effect on *Mood* even in Model 1, which includes the same independent variables in Erikson, MacKuen and Stimson (2001, p233, Table 6.4). Instead, dummy variables for the 1990s are statistically significant with a negative coefficient at 0.1 levels in Model 4 and Model 5, which means the 1990s were more conservative than before the 1980s at the aggregate level. However, the interaction term between the 1990s and stock market indexes are not statistically significant. Additionally, change of DJIA is not significant anymore in Model 2.

Why did the stock market effect disappear in Table 3.2? It is possible that the volatility of the stock market is higher than other macroeconomic indicators, so using

Table 3.1: Mood and the stock market: 1956 - 1996

	Model 1	Model 2	Model 3
(Intercept)	12.593*	18.153**	16.740**
	(4.963)	(5.685)	(5.597)
$Mood_{t-1}$	0.810***	0.731***	0.751***
	(0.078)	(0.087)	(0.086)
$Inflation_t$	-0.331*	-0.456**	-0.418**
	(0.129)	(0.143)	(0.140)
$\Delta Unemployment_t$	0.712*	0.834*	0.806*
	(0.326)	(0.323)	(0.326)
$\Delta DJIA_t$		-0.002 [†]	
		(0.001)	
$\Delta S\&P\ 500_t$			-0.015
			(0.010)
R ²	0.844	0.857	0.853
Adj. R ²	0.831	0.841	0.837
Num. obs.	41	41	41

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$

yearly data is not accurate to analyze the effect of stock market indexes. Instead of yearly data, I used quarterly data and the result is in Table 3.3. Importantly, two interaction terms, S&P 500*1990s and S&P 500*2000s are statistically significant with a negative coefficient at 0.1 and 0.05 levels, respectively. For example, a 1 point increase in S&P 500 from the previous quarter in the 2000s moves *Mood* 0.034 towards the conservative. Changes in DJIA in the 1990s and the 2000s are also statistically significant at 0.1 levels but the coefficients are smaller than the interaction terms with S&P 500. On the other hand, the stock indicators *per se* are statistically significant with positive coefficients at 0.1 levels in Model 4 and Model 5.

Stimson's *Mood* includes not only fiscal but also social ideology. If we would

Table 3.2: Mood and the stock market: 1953 - 2011

	Model 1	Model 2	Model 3	Model 4	Model 5
(Intercept)	13.125*** (3.620)	13.850*** (3.655)	13.645*** (3.657)	15.909*** (3.964)	15.619*** (3.949)
$Mood_{t-1}$	0.794*** (0.060)	0.784*** (0.060)	0.787*** (0.060)	0.760*** (0.064)	0.765*** (0.063)
$Inflation_t$	-0.253* (0.098)	-0.275** (0.099)	-0.268** (0.099)	-0.330** (0.107)	-0.320** (0.105)
$\Delta Unemployment_t$	0.218 (0.249)	0.200 (0.249)	0.200 (0.250)	0.247 (0.257)	0.243 (0.253)
$\Delta DJIA_t$		0.000 (0.000)		-0.001 (0.002)	
$\Delta S\&P\ 500_t$			-0.002 (0.002)		-0.013 (0.018)
1990s				-1.846 [†] (1.050)	-2.032 [†] (1.012)
2000s				-0.763 (0.724)	-0.807 (0.723)
$\Delta DJIA_t * 1990s$				0.001 (0.002)	
$\Delta DJIA_t * 2000s$				0.001 (0.002)	
$\Delta S\&P\ 500_t * 1990s$					0.015 (0.019)
$\Delta S\&P\ 500_t * 2000s$					0.011 (0.018)
R ²	0.800	0.806	0.804	0.822	0.822
Adj. R ²	0.789	0.791	0.789	0.793	0.794
Num. obs.	59	59	59	59	59

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$

decompose *Mood* and use economic ideology, we may see the evidence that the stock market after the 2000s would move fiscal ideology towards the conservative more

Table 3.3: Mood and the stock market: 1953:1Q - 2011:4Q

	Model 1	Model 2	Model 3	Model 4	Model 5
(Intercept)	8.901*** (2.083)	9.018*** (2.090)	8.970*** (2.090)	10.032*** (2.316)	9.837*** (2.317)
$Mood_{t-1}$	0.855*** (0.034)	0.854*** (0.034)	0.854*** (0.034)	0.841*** (0.036)	0.844*** (0.036)
$Inflation_t$	-0.106 [†] (0.058)	-0.110 [†] (0.058)	-0.109 [†] (0.058)	-0.136* (0.065)	-0.135* (0.065)
$\Delta Unemployment_t$	1.085* (0.478)	1.045* (0.481)	1.056* (0.481)	1.087* (0.499)	1.079* (0.499)
$\Delta DJIA_t$		0.000 (0.000)		0.003 [†] (0.002)	
$\Delta S\&P\ 500_t$			-0.002 (0.003)		0.032 [†] (0.017)
1990s				-0.614 (0.475)	-0.631 (0.474)
2000s				-0.239 (0.417)	-0.232 (0.417)
$\Delta DJIA_t * 1990s$				-0.004 [†] (0.002)	
$\Delta DJIA_t * 2000s$				-0.004 [†] (0.002)	
$\Delta S\&P\ 500_t * 1990s$					-0.033 [†] (0.018)
$\Delta S\&P\ 500_t * 2000s$					-0.034* (0.017)
R ²	0.782	0.783	0.782	0.789	0.790
Adj. R ²	0.779	0.779	0.778	0.781	0.782
Num. obs.	212	212	212	212	212

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, [†] $p < 0.1$

sharply than the *Mood* variable I used above. The *Policy Agenda Project* at the

University of Texas at Austin provides a policy-specific *Mood*.⁹ I used macroeconomic and financial *Mood* as dependent variables and analyze the effect of the stock market indexes.

None of the stock market indexes with macroeconomic *Mood* as a dependent variable are statistically significant. On the other hand, stock market indexes affect financial *Mood* even when the data are not quarterly but yearly. Table 3.4 shows the results of OLS regressions with financial *Mood* as the dependent variable. Although the data are not quarterly but yearly, the results in Table 3.4 are similar to the results in Table 3.3 but all four interaction terms are negative and statistically significant at least 0.05 levels. Again, the coefficients of S&P are larger than DJIA. Model 1 and Model 2 show that every increase of 1 point in S&P makes financial *Mood* 0.054 in the conservative direction.

⁹<http://www.policyagendas.org>

Table 3.4: Financial Mood and the stock market: 1953 - 2011

	Model 1	Model 2
(Intercept)	15.846** (5.801)	15.695* (5.869)
<i>Financial Mood</i> _{<i>t</i>-1}	0.706*** (0.109)	0.710*** (0.110)
<i>Inflation</i> _{<i>t</i>}	0.113 (0.122)	0.081 (0.121)
Δ <i>Unemployment</i> _{<i>t</i>}	-0.080 (0.283)	-0.015 (0.281)
Δ <i>DJIA</i> _{<i>t</i>}	0.006* (0.002)	
Δ <i>S&P 500</i> _{<i>t</i>}		0.051* (0.021)
1990 <i>s</i>	1.159 (1.413)	1.079 (1.368)
2000 <i>s</i>	1.535 (0.990)	1.394 (1.010)
Δ <i>DJIA</i> _{<i>t</i>} * 1990 <i>s</i>	-0.007* (0.003)	
Δ <i>DJIA</i> _{<i>t</i>} * 2000 <i>s</i>	-0.007** (0.002)	
Δ <i>S&P 500</i> _{<i>t</i>} * 1990 <i>s</i>		-0.054* (0.022)
Δ <i>S&P 500</i> _{<i>t</i>} * 2000 <i>s</i>		-0.054* (0.021)
R ²	0.709	0.705
Adj. R ²	0.663	0.658
Num. obs.	59	59

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, \cdot $p < 0.1$

3.4.2 Analysis 2: Dynamic Relationship between the Stock Market, Presidential Approval, and Consumer Confidence

Figure 3.2 show the dynamic correlations between presidential approval and three types of Index of Consumer Sentiment and the Index of Consumer Confidence. Erikson, MacKuen and Stimson (2000) find that voters are not “peasants” but “bankers”; that is, they judge the presidents’ economic performance prospectively. Moreover, long-term business expectations have more powerful influence on presidential approval than personal expectations or personal and business retrospections. Therefore, I use three types of ICS: the general ICS (top in Figure 3.2), business conditions expected during the next year (Business Next Year, the second top in Figure 3.2), and business conditions expected during the next five years (Business 5 Years, third top in Figure 3.2). The blue, red, and green dashed lines represent Black Monday in 1987, 9/11, and the fail of the bailout bill in 2008, respectively.

The shape of the dynamic correlations between presidential approval and ICS is very similar to Lebo and Box-Steffensmeier (2008, Figure 3) but the values of the dynamic correlations are different. This stems partly from the difference between taking the differentiation or fractional integration. In Lebo and Box-Steffensmeier (2008), the range of the dynamic correlation is approximately between -0.5 to 0.4. In my analysis, the dynamic correlations are always positive.

In accordance with the findings by Erikson, MacKuen and Stimson (2000), the correlation between long-term business expectations and presidential approval is higher and the volatility is larger than those of other ICS. The highest moment of the correlation was June 1993 (0.54) and the lowest moment was after 9/11 (-0.376).

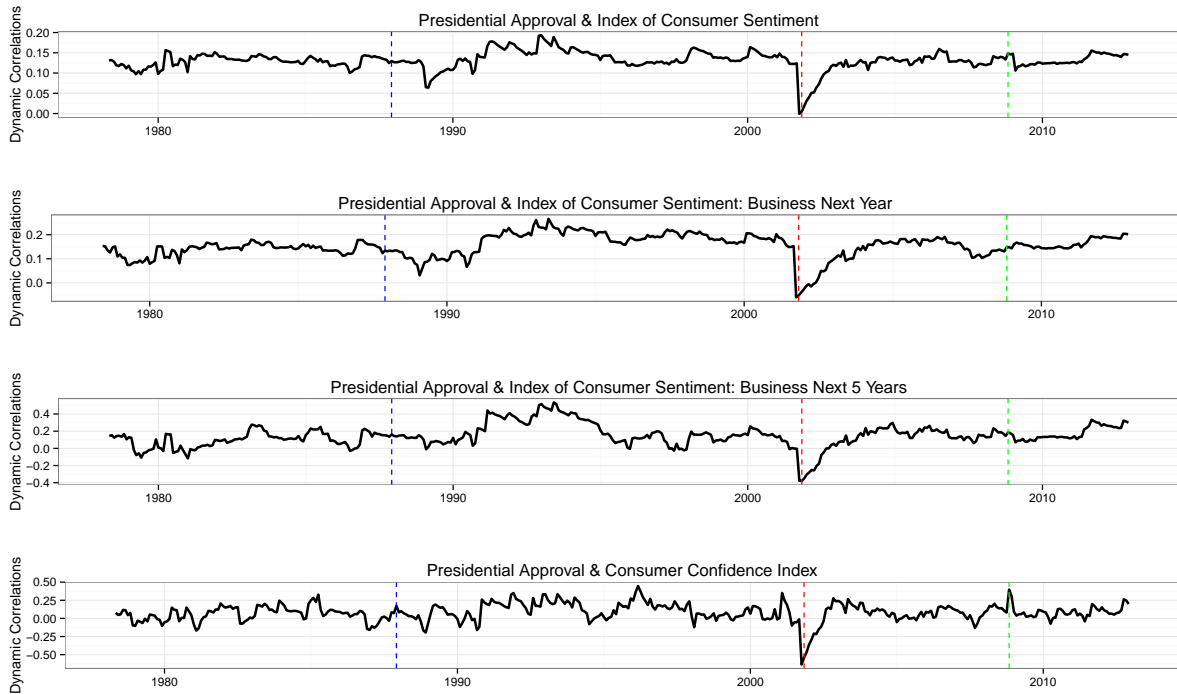


Figure 3.2: Dynamic correlations between presidential approval and Consume Sentiment Indexes

Indeed, all four figures show that the effect of 9/11 was significant on the correlations. Because of the “rally round the flag” effect after 9/11, the presidential approval rate rose rapidly, therefore the correlations dropped sharply.

The plots of three dynamic correlations between presidential approval and ICS show that there were four different phases over three decades. The first phase was from the 1980s to the early 1990s, which shows that there were low correlations between two indexes. The third figure shows that the correlations moved around zero. The second phase was from the early 1990s to 9/11, which kept high correlations and

low volatility except in long-term business expectations. The third phase was from the 9/11 to the financial crisis. After 9/11, the correlations recovered and kept almost the same level as the pre-9/11 period. Finally, the last phase was from the financial crisis to the present. During this phase, the correlations were slightly lower than before the financial crisis. The volatility is almost zero for a while. According to these four phases, I summarize that the presidential approval rate and consumer confidence are a dynamic relationship. On the other hand, the dynamic correlations between the presidential approval rate and the CCI have high volatility compared to the correlations with ICS. It might be because both the retrospective and prospective periods in the CCI are shorter than the ICS.

Figure 3.3 shows the dynamic correlations between CCI, presidential approval, and stock market indexes. The patterns of the correlations between CCI and stock indexes are similar. The correlations were very low before the 1990s. While the correlations declined from the early 1990s to the late 1990s, they increased gradually and reached the highest during late 2009 to early 2010. These patterns explain that when the stock price increases, people feel the effects of the good economy. This trend is significant after the financial crisis even though some people left the stock market after the financial crisis. The stock price has recovered since the financial crisis recently. The DJIA reached the highest point, 15,409 on May 28, 2013 and the S&P 500 also made a record, 1669.16, on May 21, 2013. On the other hand, according to Bricker et al. (2012), direct stock ownership dropped after the crisis. Eighteen percent of U.S. households owned stocks directly in 2007 but it dropped to 15 percent in 2010. That is, it is possible that leaving the stock market is a

temporary phenomenon and the stock market became an important index to evaluate the national economy among the public. The bottom two plots in Figure 3.3 show the relationship between presidential approval and the stock indexes. Against my expectations, both correlations are almost zero over time.

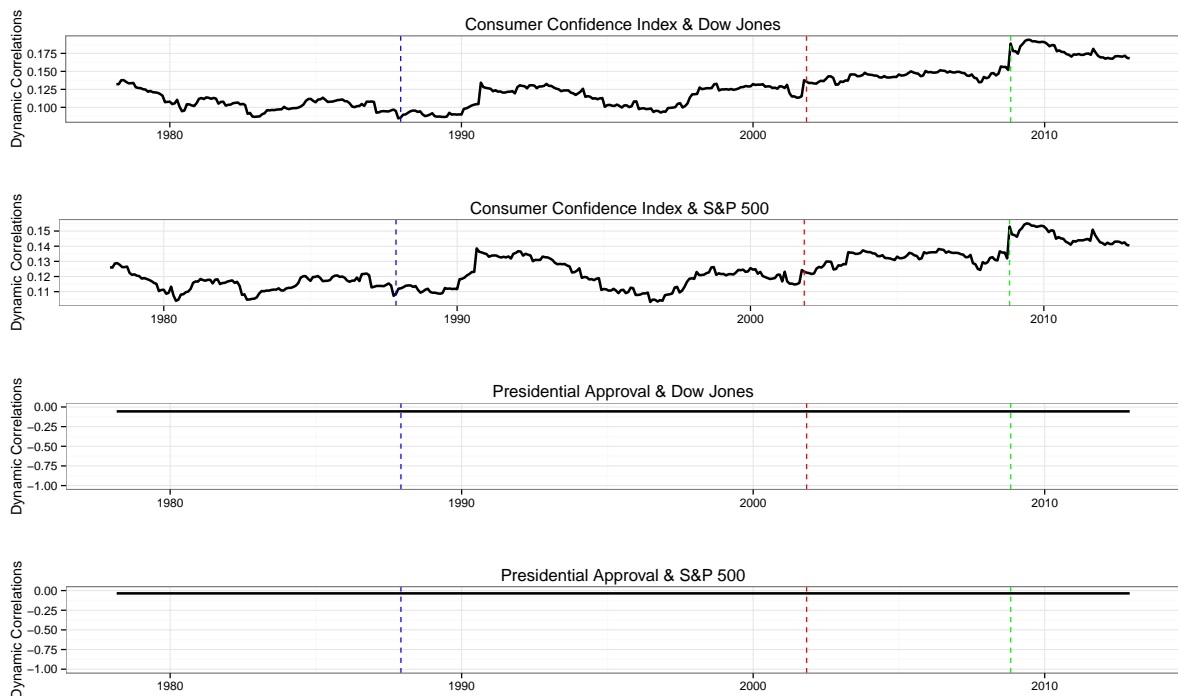


Figure 3.3: Dynamic correlations between Consume Confidence Index, presidential approval and stock indexes

Table 3.5 shows each parameter of DCC-GARCH (1,1). Each parameter represents a parameter in Equation (3.3) and (3.5) and the number of the parameter represents the series 1 - series 2 in each analysis. For example, in the first column at the top of Table 3.5, a1 is the parameter for presidential approval and a2 is the

Table 3.5: Estimated Parameters by DCC-GARCH(1,1)

	P.A. & ICS Business				P.A & ICS Business			
	P.A. & ICS		Next Year		Next 5 Years		P.A. & CCI	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
a1	3.37	4.50	6.89	7.21	6.82	6.81	2.10	1.13
a2	0.55	0.04	11.11	0.07	1.97	0.06	0.70	0.37
A11	0.06	0.22	0.10	0.37	0.11	0.34	0.51	0.19
A22	0.04	0.66	0.05	8.92	0.03	3.24	0.02	1.73
B11	0.76	0.03	0.53	0.03	0.54	0.03	0.55	0.02
B22	0.93	0.06	0.85	0.09	0.93	0.07	0.96	0.06
α	0.01	0.03	0.02	0.02	0.05	0.02	0.10	0.04
β	0.87	0.48	0.93	0.13	0.88	0.06	0.69	0.13

	CCI & Dow Jones		CCI & S&P 500		P.A. & Dow Jones		P.A. & S&P 500	
	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.	Estimate	S.E.
a1	0.94	10.33	3.11	2.63	5.69	5.34	5.24	4.92
a2	0.61	0.02	0.84	0.04	0.86	0.09	0.59	0.14
A11	0.00	0.34	0.07	0.11	0.19	0.28	0.24	0.27
A22	0.09	0.46	0.12	0.51	0.08	0.59	0.11	0.39
B11	0.97	0.03	0.84	0.04	0.55	0.03	0.54	0.04
B22	0.89	0.04	0.85	0.06	0.88	0.05	0.87	0.05
α	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.02
β	0.99	0.05	0.98	0.17	0.93	127267.41	0.93	74108.53

parameter for the ICS. Parameter α and β are the DCC parameters. A sum of α and β close to 1 means high persistence in the conditional variance. The sum of α and β in P.A. & CCI is smaller than the sum in P.A. & ICS. That is, the relationship between presidential approval and the CCI is more time-varying than ICS. The standard errors for β in P.A. & Dow Jones and P.A. & S&P 500 are quite large, which means DCC-GARCH does not fit well for those models. From those results and Figure 3.3, there is no evidence of the relationship between presidential approval and the stock market return.

From these analyses, I found that there is a dynamic relationship between (1) presidential approval and consumer confidence and (2) consumer confidence and the stock market but (3) there is no relationship between presidential approval and the stock market.

3.5 Discussion

The potential for the analysis of the stock market and politics including individual-level analyses is tremendous. First, we know little about the relationship between political knowledge and economic knowledge. Although Gomez and Wilson (2001) treat political knowledge as a proxy for the level of economic knowledge, there is a possibility that those who are politically informed know little about the economy or vice-versa. Another potential subject is the effect of financial background on *pocketbook* and *sociotropic voting* on a more individual level, although the aggregate-level analysis here could not find the evidence of an effect of the stock market return on presidential approval. Should we distinguish stockowners between those who own stock directly and those who own it indirectly?

It is plausible to believe that the influence of the stock market on U.S. society will not decline in the future because more companies provide retirement benefits through 401(k) plans rather than older, traditional instruments. Additionally, the current budget crisis in local governments may promote stock market-friendly retirement plans to government employees in the public sector. If so, we should pay more attention to the influence of the stock market on U.S. politics.

Chapter 4

The Effect of Stock Ownership on Policy Attitudes

I'm not sure that three days of stock markets dropping set off any ripples at all. I was at four events this weekend, and no one was talking about it.

– David Nagle (D-Iowa), October 19, 1987¹

I checked online to see if Kirk voted in favor of the bailout...I was going to send him an angry e-mail if he voted no...I don't like the bailout, but unfortunately, we have no other choice.

– John McLaughlin, September 30, 2008²

4.1 Introduction

In order to analyze stockowner's attitudes toward stock-related public policies, I chose four public policies: the capital gains tax cut in 2003, privatization of Social Security, the tax hike on capital gains among the wealthy in 2010, and the tax hike on personal income tax among the wealthy in 2010. The first two policies were proposed

¹“Political Memo: Stock Slide Ripples Through Voters.” *The New York Times*, October 20, 1987, A30.

²“Amid the Wall Street Chaos: Confusion, Anger, and Shifting Opinions.” *The New York Times*, September 30, 2008, A26.

or implemented by the Bush administration. President Barack Obama proposed the latter during the 2010 Midterm Elections.

I chose these four policies for the following reasons. First, all four policies were significantly ideological and partisan issues. Indeed, the privatization of Social Security was not an original idea of George W. Bush. Conservative think tanks and policy analysts had already supported privatizing Social Security from the 1980s (Ferrara, 1980) and by the 2000 Presidential election, privatization of Social Security became a partisan issue. As a Republican presidential candidate, Bush proposed that the government would establish individual investment accounts within Social Security. By contrast, the Democratic candidate Al Gore said, “I will veto anything that takes money out of Social Security for privatization or anything else other than Social Security” at the first presidential debate on October 3 2000.³ Bush responded that privatization of Social Security is especially for younger workers and emphasized that Social Security should be controlled not by the government but by people. At the same presidential debate, Bush mentioned “the payroll taxes are your money. You ought to put it in prudent, safe investments so that \$1 trillion over the next ten years grows to be \$3 trillion. The money stays within the Social Security system. I want you to have your own asset that you can call your own. I want to get a better rate of return for your own money than the paltry 2% that the current Social Security Trust gets today.”⁴

³Transcript from the Commission on Presidential Debates. <http://www.debates.org/index.php?page=october-3-2000-transcript>

⁴*Ibid.*

The roll call votes for two Bush tax cuts in 2001 and 2003 tell us how these tax cuts were passed in the Congress with strong partisan support by the Republican Party. The original bill of the Bush tax cut in 2001, the personal income tax cut (H.R. 1836) was introduced by William M. Thomas (R-CA) on May 15, 2001, then passed the House floor (230-197), including thirteen Democrats and one Independent's support, on May 16, 2001 and the Senate floor (62-38) including ten Democrats' support on May 23, 2001. William M. Thomas also proposed capital gains tax cut in 2003 on February 27, 2003 that passed the House (231-200) and the Senate (50-50, the Vice President voted Yea) on May 23, 2003. Reflecting partisan and ideological legislative process, there was partisan support and disapproval of Bush tax cuts among the constituency (Lupia et al., 2007).

Two years after the financial crisis, how to solve federal debt is a political battle in Washington. The Democratic Party argued that we needed to increase taxation among the wealthy in order to increase revenues while the Republican Party argued that any tax increase will harm the economy. Since the 2001 and 2003 Bush tax cuts would expire in 2011, President Obama proposed in February 2010 to allow both EGTRRA and JGTRRA to expire only for high-income households above \$200,000 for individuals and \$250,000 for families. Republican party members and conservative think tanks argued that Obama's proposal would not increase revenues (e.g. Foster, 2010). By contrast, the Senate Republican leader Mitch McConnell (R-KY) proposed legislation to keep all of the Bush tax cuts on September 13, 2010. The House minority leader John Boehner (R-OH) was also opposed Obama's "tax hike" for the wealthy and prevented the vote before the election. After the Repub-

licans gained 63 seats in November and controlled the House, President Obama had to compromise his plan and signed the Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 on December 17, 2010, which extended Bush's tax cuts for the next two years.

The second reason for the choice of these public policies is that all policies except the proposal of personal income tax hike in 2010 were related to investment in the stock market directly. If people decide their policy attitudes based on their financial self-interest, stockowners might support capital gain tax cut in 2003 and oppose the tax hike on capital gains in 2010. In the previous study regarding attitudes toward Social Security privatization and financial self-interest, Barabas (2006) finds that people with financial expertise support Social Security privatization even after the decline of the stock market, while people in general update their attitude toward Social Security privatization based on the stock market conditions. Furthermore, if self-interest would be stronger than symbolic belief, stockowners who describe themselves as Democrats would support Bush's Social Security privatization as well.

4.2 Data and Methods

As I described in the previous chapter, there is plentiful evidence of the importance of the separation between those who invest stocks directly and those who only invest stocks indirectly as mutual funds or retirement plans. Although some previous studies analyzed the stock ownership effects on political behavior, many studies did not separate these two groups. This lack of study stems from data limitation. For example, American National Election Studies (ANES) has asked a stock

ownership question since 1998. However, ANES does not distinguish between direct and indirect stockowners. Rather, ANES asks as “Do you personally, or jointly with a spouse, have any money invested in the stock market right now – either in an individual stock or in a mutual fund?”

To distinguish direct and indirect stock ownership and analyze the effect of stock ownership on capital gain tax cuts in 2003 and privatization of Social Security proposed by George W. Bush, I use TNS/Washington Post Poll in August 2003 downloaded from the Roper Center for Public Opinion Research (2003 TNS/WP). As the second analysis, I use the 2010 Cooperative Congressional Election Study (CCES). I especially use the 2010 CCES Common Content and Group Content designed by the University of Texas at Austin in order to analyze stockowners’ attitudes toward President Obama’s tax policy of expiring Bush tax cuts among the wealthy.

One of the advantages of these two surveys is that both surveys asked respondents about the two types of stock ownership separately – direct and indirect stock ownership. I coded respondents as “direct stockowners” if they own stocks directly and “indirect stockowners” if they own stocks only through mutual funds or pension plans such as through a 401(k).

In the first analysis with the 2003 TNS/WP, I have two dependent variables. In the first equation, the dependent variable is whether Bush’s tax cut on capital gains is (1) good for economy, (2) bad for economy, or (3) won’t make much difference. A disadvantage of the wording of this question is that it does not ask about “personal” benefits directly. Rather, some respondents might answer it as a “sociotropic” question. Because answers are ordered categorical variables, I use the

ordered logit model for the analysis.⁵

The second dependent variable is whether the respondents (1) support or (2) oppose the plan in which people who chose to invest some of their Social Security contributions in the stock market. I use logistic models for the second analysis.⁶

Besides direct and indirect stock ownership variables I include same control variables: whether Democrat or Republican, age, gender, whether Black, Hispanic, or another race, family income, and education. Additionally, I created a dummy variable for age (1) under 34 years old and (2) between 35 to 64 years old in order to analyze the difference in attitudes toward policies in terms of age because Bush emphasized that privatizing Social Security is for younger generations. Additionally, older people pay more attention to their retirement income than younger people, so it is possible that the elder indirect stockowners would be more sensitive about related public policies such as tax rates and Social Security.

To analyze the relationship between self-interest and symbolic beliefs, I created an interaction term with the Democrat and two stock ownership variables. If the effect of symbolic belief is larger than financial self-interest (Lau and Heldman, 2009), the direction of these interaction terms will be the same as the party identification variable.

⁵I used *polr* in *MASS* package (Venables and Ripley, 2002) in R.

⁶I use *glm* in *stats* package in R.

4.3 Results

Analysis 1

According to the Federal Reserve Board, 21.3% of U.S. families owned stocks directly and 17.7% owned pooled investment funds such as mutual funds and 52.2% owned retirement accounts in 2004 (Bucks, Kennickell and Moore, 2006). On the other hand, the 2003 TNS/WP, conducted from August 7 to August 11 in 2003, includes 1003 samples and 21.4% of respondents' household owned stocks directly, 34.7% owned only through mutual funds or pension plans and 41.0% did not invest on the stock market at all. I created dummy variable for the direct and indirect stockowners with these 21.4 and 34.7% of respondents.

Table 4.1 shows the result of ordered logit model with dependent variable for the support for the capital gains tax cut in 2003. The numbers are odds ratios for each variable. The first column is the ordered logit model without any interaction terms. The most important finding is that direct stockowners do support Bush's tax policy while the attitudes among the indirect stockowners and non-investors had no difference. In addition, the magnitude of support among direct stockowners is large. The odds ratio is between 1.773 and 1.892 in three models and they are all statistically significant at 0.01 levels, which means direct stockowners support Bush's capital gains tax cut about 1.8 times more than non-investors, *ceteris paribus*.

Table 4.1: Attitudes toward capital gains tax cut in 2003

	Model 1	Model 2	Model 3
Direct Stock	1.843** (0.207)	1.773** (0.207)	1.892** (0.234)
Indirect Stock	1.192 (0.169)	0.943 (0.197)	1.203 (0.202)
Democrat	0.488*** (0.171)	0.482*** (0.172)	0.501** (0.232)
Republican	2.725*** (0.166)	2.588*** (0.168)	2.719*** (0.167)
Age 34 under	1.237 (0.219)	1.003 (0.237)	1.239 (0.219)
Age 35-64	1.127 (0.205)	1.162 (0.206)	1.128 (0.206)
Female	0.845 (0.137)	0.837 (0.137)	0.846 (0.137)
Black	1.291 (0.231)	1.253 (0.231)	1.290 (0.231)
Hispanic	0.827 (0.289)	0.775 (0.290)	0.824 (0.290)
Other	1.921* (0.330)	1.918* (0.332)	1.921* (0.330)
Family Income	0.922 (0.050)	0.926 (0.051)	0.922 (0.050)
Education	1.022 (0.074)	1.022 (0.074)	1.022 (0.074)
Indirect*Age 34 Under		2.049* (0.311)	
Direct*Democrat			0.910 (0.391)
Indirect*Democrat			0.977 (0.330)
AIC	1622.276	1618.924	1626.216
BIC	1688.874	1690.279	1702.328
Log Likelihood	-797.138	-794.462	-797.108
Deviance	1594.276	1588.924	1594.216
Num. obs.	860	860	860

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

I also find that the party identification is statistically significant with 0.001 levels and the magnitude is the largest among all independent variable, which means the symbolic belief or partisanship has strong influence on policy attitudes. The odds ratio of *Democrat* and *Republican* variable are approximately 0.5 and 2.7, respectively. That is, the support for the capital gains tax cut among the Democrats are 50% lower than the Independents while the Republicans' support is almost three times higher than the Independents. On the other hand, the interaction effect with Democrat and two stock ownership variables does not have affect in the third column in Table 4.1.

The second column in Table 4.1 is the result examined the age effects on the support of capital gains tax cut. Although neither any age variables nor indirect stock ownership *per se* does affect policy attitudes in all three models in Table 4.1, the interaction term with indirect stockowners and age under 34 years old shows statistically significant with 0.05 levels and the odds ratio is 2.0. That is, the young generation those who owns stocks as mutual funds or pension plans only support capital gains tax cuts while age *per se* has no effect on policy preference in 2003.

In order to understand the relationship between self-interest and symbolic belief, I added interaction terms between stock ownership and party identification (Democrat) in model 3 (Column 3 in Table 4.1). Although both direct stock ownership and party identification variables are statistically significant, their interaction terms do not have effect on the attitudes toward Bush tax cut, which means their effects are independent. The attitudes among those who own stocks directly or indirectly and recognize themselves as Democrat are not different from other stockowners

with party identification as Republican or Independent.

Table 4.2 shows the result of logit regression model regarding the attitudes toward privatizing Social Security in 2003. Interestingly, those who own stocks as mutual funds or retirement plans have strong preference for Bush's Social Security reform while only direct stock ownership has effect on policy attitudes. It might be possible that Bush's proposal were not strong enough among those who less familiar with the stock market and their attitudes were sensitive to market conditions (Barabas, 2006).

The first difference between the attitudes toward capital gains tax cut and privatization of Social Security is that young people support the policy. Under 34 and between 35 and 64 years old respondents support the privatization of Social Security approximately four and two times more than over 65 years old respondents, respectively. This result is in line with what George W. Bush mentioned during the 2000 presidential elections. Secondly, the interaction term between direct stock ownership and Democrat is statistically significant and the odds ratio is 0.36. That is, if people own stocks directly, they support Bush's policy but the support is conditional. If stockowners are Democrat, they oppose privatization of Social Security and symbolic belief overcomes financial self-interest. However, this effect is only among direct stockowners. If a Democrat owns stocks as only mutual funds or pension plans, their attitudes are same as non-investors or party identifiers.

Table 4.2: Attitudes toward privatization of Social Security

	Model 1	Model 2	Model 3
(Intercept)	0.189*** (0.344)	0.187*** (0.346)	0.156*** (0.338)
Direct Stock	1.442 (0.216)	1.452 (0.217)	1.888* (0.259)
Indirect Stock	1.147 (0.188)	1.180 (0.213)	1.172 (0.214)
Democrat	0.592** (0.181)	0.593** (0.181)	0.893 (0.246)
Republican	2.105*** (0.178)	2.121*** (0.180)	1.848*** (0.179)
Age 34 Under	4.156*** (0.227)	4.293*** (0.254)	4.349*** (0.241)
Age 35-64	2.437*** (0.200)	2.428*** (0.200)	2.702*** (0.225)
Female	0.808 (0.148)	0.809 (0.148)	0.722* (0.149)
Black	1.646 (0.286)	1.655 (0.287)	1.433 (0.244)
Hispanic	0.921 (0.370)	0.931 (0.371)	1.072 (0.324)
Other	0.997 (0.340)	0.997 (0.340)	0.919 (0.354)
Family Income	1.088 (0.055)	1.087 (0.055)	1.112* (0.054)
Education	1.108 (0.086)	1.108 (0.086)	1.107 (0.079)
Indirect*Age 34 Under		0.901 (0.360)	
Direct*Democrat			0.363* (0.439)
Indirect*Democrat			0.731 (0.352)
AIC	1117.183	1119.100	1211.567
BIC	1179.337	1186.034	1283.282
Log Likelihood	-545.592	-545.550	-590.783
Deviance	1091.183	1091.100	1099.049
Num. obs.	881	881	881

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Analysis 2

Table 4.3 and 4.4 are the results of analyses by ordered logit models with the 2010 CCES examining the effect of stockownership on Obama's tax hike proposal among the wealthy. Contrary to the results in Analysis 1, both tables show that not only direct but also indirect stock ownership are statistically significant. The direction and magnitude of odds ratio in both variables are very similar. If people own stocks directly or indirectly, they oppose Obama's tax hike plans even after controlling income levels.

Party identification also has strong influence on both attitudes. Democrats support tax hike on capital gains among the wealthy approximately at most 4.8 times more compared to Independents in the model without any interaction terms. Moreover, whereas indirect stockowners oppose both tax hike proposal, the interaction terms between indirect stockowners and Democrats show that Democrats who owns mutual funds or 401(k) support more than five times as much as Independents' support. These strong attitudes show that Obama's tax hike proposal was very ideological issue especially after the financial crisis.

Table 4.3: Attitudes toward tax hike on capital gains

	Model 1	Model 2	Model 3
Direct	0.706 (0.230)	0.631* (0.233)	0.572* (0.281)
Indirect	0.658* (0.197)	0.459*** (0.229)	0.334*** (0.265)
Democrat	4.832*** (0.198)	4.615*** (0.200)	2.800*** (0.263)
Republican	0.349*** (0.216)	0.339*** (0.217)	0.342*** (0.220)
Age 34 Under	1.133 (0.264)	0.748 (0.296)	1.088 (0.268)
Age 35-64	1.443 (0.229)	1.400 (0.230)	1.500 (0.232)
Female	1.141 (0.164)	1.168 (0.165)	1.113 (0.166)
Black	0.763 (0.253)	0.828 (0.256)	0.755 (0.254)
Hispanic	0.378** (0.327)	0.406** (0.328)	0.386** (0.327)
Other	0.967 (0.326)	1.016 (0.328)	0.945 (0.326)
Family Income	1.003 (0.025)	1.020 (0.026)	1.008 (0.025)
Education	1.079 (0.059)	1.070 (0.060)	1.049 (0.061)
Indirect*Age 34 Under		3.771** (0.415)	
Direct*Democrat			1.502 (0.392)
Indirect*Democrat			5.024*** (0.399)
AIC	1264.840	1256.585	1251.496
BIC	1328.857	1325.175	1324.658
Log Likelihood	-618.420	-613.293	-609.748
Deviance	1236.840	1226.585	1219.496
Num. obs.	715	715	715

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Table 4.4: Attitudes toward personal income tax hike among the wealthy

	Model 1	Model 2	Model 3
Direct	0.533** (0.242)	0.520** (0.246)	0.360*** (0.285)
Indirect	0.532** (0.203)	0.498** (0.234)	0.369*** (0.251)
Democrat	4.222*** (0.209)	4.168*** (0.210)	2.257** (0.287)
Republican	0.298*** (0.207)	0.298*** (0.208)	0.280*** (0.213)
Age 34 Under	0.952 (0.271)	0.882 (0.303)	0.975 (0.273)
Age 35-64	2.033** (0.229)	2.029** (0.229)	2.080** (0.234)
Female	1.342 (0.168)	1.348 (0.168)	1.374 (0.170)
Black	0.939 (0.283)	0.954 (0.284)	0.903 (0.282)
Hispanic	0.629 (0.360)	0.640 (0.361)	0.674 (0.357)
Other	0.629 (0.338)	0.632 (0.338)	0.609 (0.335)
Family Income	1.008 (0.027)	1.012 (0.027)	1.017 (0.027)
Education	1.003 (0.062)	0.999 (0.062)	0.984 (0.063)
Indirect*Age 34 Under		1.275 (0.424)	
Direct*Democrat			3.268* (0.472)
Indirect*Democrat			2.775* (0.407)
AIC	1117.422	1119.094	1112.020
BIC	1182.344	1188.653	1186.216
Log Likelihood	-544.711	-544.547	-540.010
Deviance	1089.422	1089.094	1080.020
Num. obs.	763	763	763

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Predicted probability

Figure 4.1 and 4.2 are the predicted probabilities for attitudes toward capital gains tax hike and income tax hike. For the calculation, age and education are set to their mean, gender is set to male, race is set to white. Family income (x-axis) is changed from 1 (less than \$10,000) to 14 (more than \$150,000).

Party identification has a significant role in each predicted probability. Independents and Republicans show similar trend – people more oppose Obama’s tax policy than support it regardless stock ownership levels while Democrats support it. The probability of supporting the policy among the Democrats are always more than 50% while the probabilities of opposing the policy among the Republicans are always more than 70%. The probabilities of opposing policy among the Independents are always higher than their policy support but it depends on stock ownership. The Independent stockowners more oppose the policy than non-investors. In terms of the Democrats, the wealthy Democrats more support Obama’s proposal for tax hike on capital gains than less wealthy Democrats. When the income level changed from less than \$10,000 to more than \$150,000, the probability of supporting Obama’s proposal regarding the capital gains tax hike would increase 4% while the probability of opposing the policy would decrease about 2%. This attitude is accordance with “super wealthy” Obama supporters such as Warren Buffett.

Compared to Figure 4.1, the predicted probabilities for supporting and opposing income tax hike in Figure 4.2 are much influenced by party identification and income level. Regardless stock ownership, more than 70% of Democrats support the policy. Interestingly, the proposal is targeted for households with \$250,000 annual in-

come, the predicted probability of supporting the policy among the Democrats those who are in the richest categories and own stocks directly is 77%. On the other hand, the attitudes among the Independents are more income dependency. The probability for opposing the policy among stockowners and the Independent is higher than that of supporting the policy among less wealthy people. However, the probability of supporting and opposing the policy are almost same if they are in the richest category.

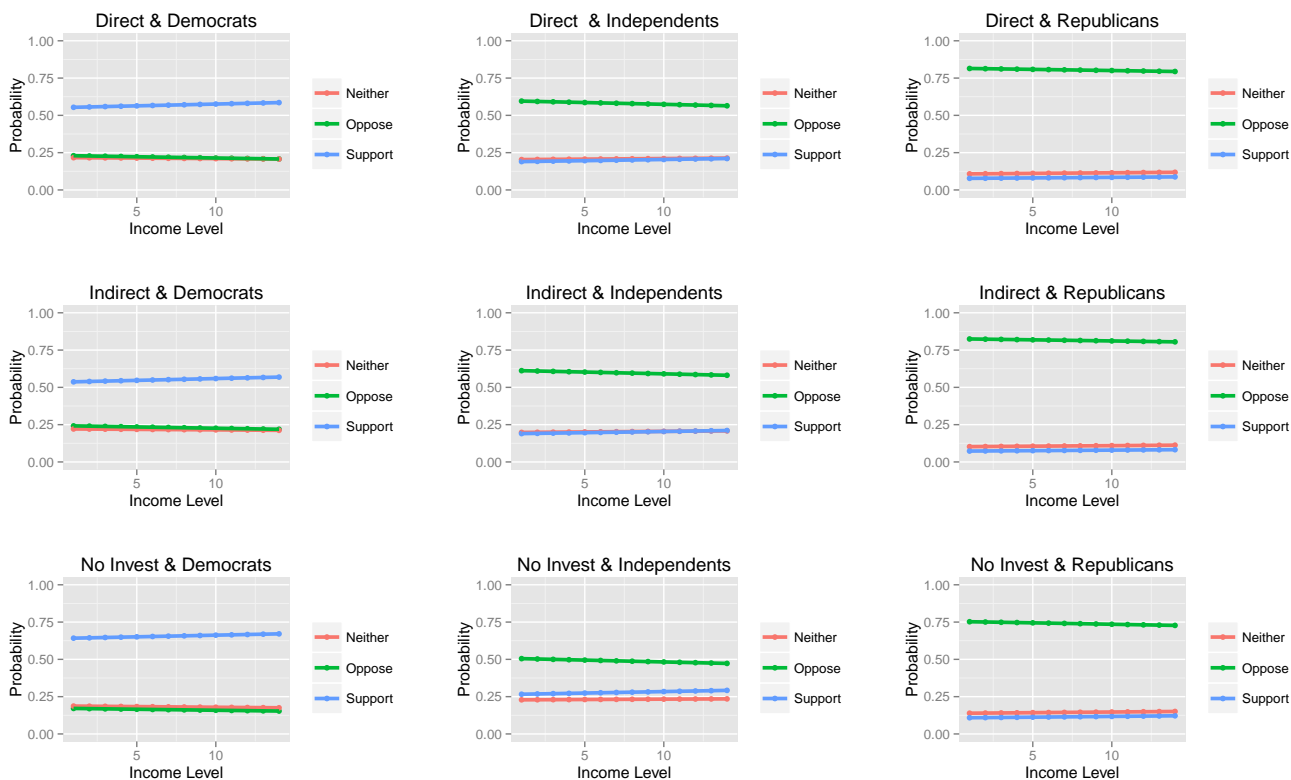


Figure 4.1: Predicted probabilities of supporting capital gains tax hike among the wealthy

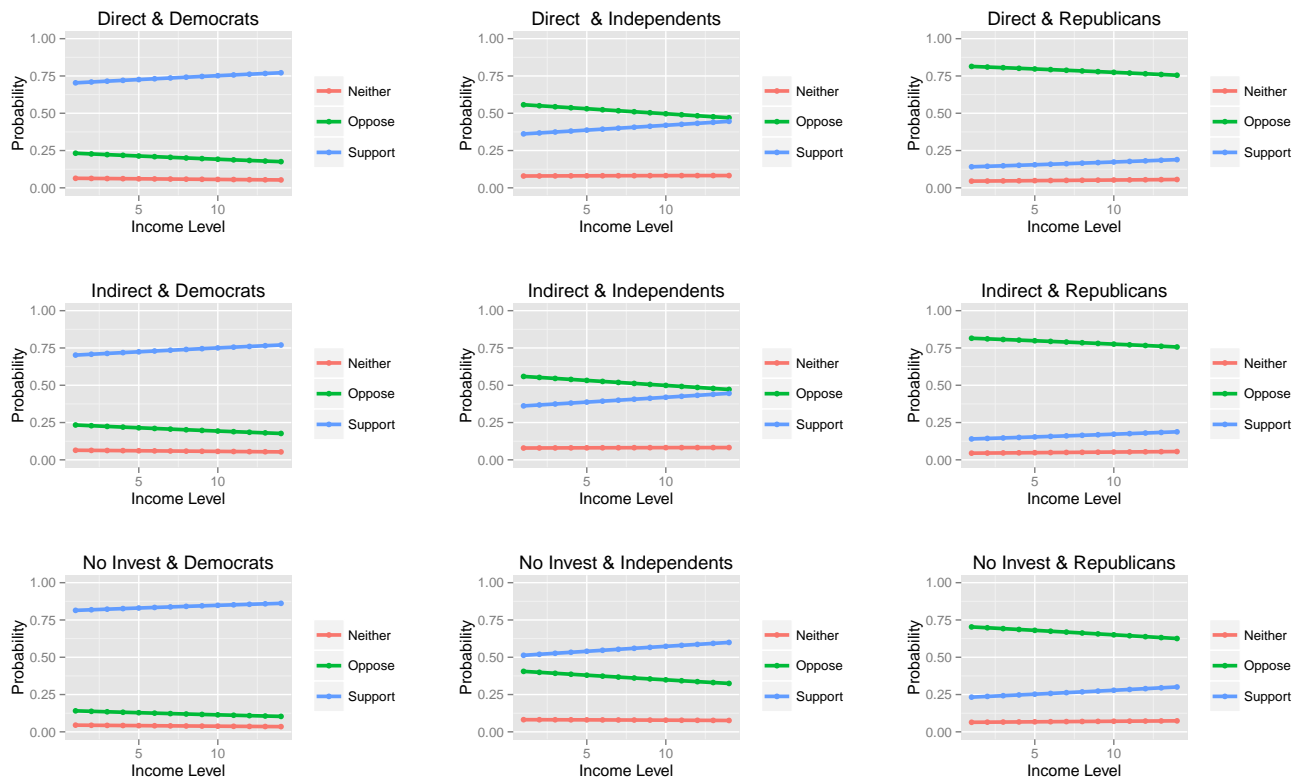


Figure 4.2: Predicted probabilities of supporting income tax hike among the wealthy

4.4 Discussion

This chapter examines people's conflict between their financial self-interest and symbolic beliefs. An existing study states that when the benefit from a policy is significant and clear, people choose self-interest rather than symbolic beliefs, but that this situation is a special case. If so, we need to examine many cases to understand when people use self-interest against their symbolic beliefs.

In terms of the effect of stock ownership, my findings show that we need to distinguish between direct and indirect stock ownership. With this distinction, we need to investigate the relationship between self-interest and symbolic beliefs. The benefits from the capital gains tax policies are very clear. However, stockowners' attitudes toward the Bush tax cut in 2003 and Obama's tax hike proposal are also clear. There are different stock ownership effects on these two policies: only direct stock ownership matters for the Bush tax cut while both direct and indirect stock ownership matters for Obama's tax proposal. The first possibility is that only direct stockowners recognized benefits they would receive and indirect stockowners did not think they would receive benefits from the Bush tax cuts. In 2010, however, both direct and indirect stockowners thought they would lose financial benefits from the proposal. Another possibility is that people react differently between tax cut and tax hike. In other words, people are more sensitive to a tax increase than tax cuts.

The effects of the interaction between stock ownership and party identification are also different between two analyses. I find that party identification matters only to those who are Democrats and indirect stockowners. I conclude that because the financial benefits from tax policies to indirect stockowners are smaller than that of

direct stockowners, party identification overcomes financial self-interest. Therefore, Democrats who own stocks indirectly supported Obama's proposal although indirect stock ownership *per se* has a negative effect on support of the policy.

Next, we need to find where the threshold is. When does self-interest overcome symbolic beliefs exactly? To do so, we need to analyze similar cases but in different situations.

Chapter 5

Wall Street News On Main Street

5.1 Introduction

There are three information paths in which people consciously and unconsciously receive information to understand the health of the national economy – personal experience, conversations with others, and media. In other words, compared to political information, people have a lot of opportunities to receive economic information regardless of their ability, opportunity, and motivation.¹

The *by-product theory of information* suggests that people receive economic information through daily activities. For example, people recognize increased inflation rates in gasoline prices (Downs, 1957; Popkin, 1991). Other people might realize how bad the economy is when they were laid off or salary was declined. Regarding the information path through others, Mutz (1992) found that people recognize increases in the unemployment rate not only from personal experience, but also from conversations with others.

Meanwhile, communication scholars have emphasized the importance of media among the public. The *media-dependency theory* argues that the more individuals

¹Regarding the role of motivation, opportunity, and ability in political knowledge, see Luskin (1990)

rely on media, the more important the media has become to those individuals (Ball-Rokeach and DeFleur, 1976). In the context of politics and economy, the public relies on television and newspapers for economic information as understanding the economy, which requires a variety of knowledge and information (MacKuen, Erickson and Stimson, 1992).

If it is true that the media is a primary source of information for most of the public among the three paths to receive economic information, then it is important to understand how the media treats the national economy *politically* because the condition of the national economy affects election outcomes (Kinder and Kiewiet, 1979, 1981; Kiewiet, 1983; Fiorina, 1981; MacKuen, Erickson and Stimson, 1992).

Which economic indicators does the public use to evaluate the government? Vavreck (2009) finds that the public uses unemployment rate, inflation rate, and GDP to evaluate government's performance. How about the stock market? To my knowledge, there is no previous study that examines how the media treats stock market news politically, despite stock market news being more dynamic and reported upon at a higher frequency than news about other economic indicators. We also do not know how the president and other public figures use the stock market in their messages either. Business and financial cable channels such as CNBC and Bloomberg report on the stock market 24/7. Moreover, when the stock market rises or falls dramatically, it becomes sensational news not only on business channels but also main news source. People can check past and current stock prices online as well without additional cost now. Companies are evaluated based on their stock conditions. When a company's stock goes public, it sometimes becomes a social

phenomenon, such as Netscape in 1995, Google in 2004, and Facebook in 2012.

The objective of this chapter is to analyze whether the stock market has only been mentioned in economic news, or if it also appears with other topics such as politics. If the stock market became politically important, politicians would discuss it more in their speeches and the media would report it. At the same time, viewers and readers and editorials would blame the president for declines in the stock market.

To analyze Wall Street news in political news, at first I examined term frequencies for some political keywords that used in Wall Street news from 1981 to 2012 in the *New York Times*. Second, I estimated the latent topics in Wall Street news in the *New York Times* by *Wordfish* (Slapin and Proksch, 2008). I extended the analysis to find latent topics in articles by topic models (Blei and Lafferty, 2009) with the *New York Times* from 1981 to 2012 and *USA Today* from 1991 to 2012.

5.2 Background

Since the seminal work by Kinder and Kiewiet (1979), many scholars have analyzed the economic determinants of voting choice among the electorate, focusing on whether the change of personal economic situation affects voting choice (*pocketbook*) or the health of state/national economy affects it (*sociotropic*) (Kinder and Kiewiet, 1979, 1981; Kiewiet, 1983; MacKuen, Erickson and Stimson, 1992; Fiorina, 1981). According to Lewis-Beck (2006), more than 400 articles about economic voting behaviors have been published. In the U.S., more evidence has substantiated the *sociotropic* hypothesis than the *pocketbook* hypothesis.

If the electorate understands the condition of the national economy accurately and without bias, what scholars need to do is simply focus on the relationship between the macro-economy indicators and election results. In reality, most people rely on media to collect economic information and the media coverage about the national economy is neither accurate nor unbiased. Rather, the media have demonstrated a tendency to report more negative news than positive (Harrington, 1989; Hetherington, 1996; Zaller, 1992), report more incumbent-friendly coverage (Hofstetter, 1978; Page and Shapiro, 1992; Brody, 1991), and lean toward specific parties (Conover, Feldman and Knight, 1987; Mutz, 1992; Jackman, 1993). Leaning toward a specific party or ideology is especially evident in talk radio (Barker, 1998) and on cable channels (Della Vigna and Kaplan, 2007).

The media *per se* influence citizen perception as well. Iyengar (1991) defined two types of framing effects: *episodic* and *thematic*. Episodic framing provides more individual-oriented coverage and attributes personal responsibilities. For example, news coverage about poverty on TV tends to use episodic framing, which implies that the viewer perceives poverty not as a social issue, but as a personal problem. On the other hand, thematic coverage includes more general, background information about the issue; viewers and readers interpret coverage using thematic framing as a social issue. Thus, people recognize the issue as a social problem and blame decision makers. Iyengar (1991) demonstrated that unemployment coverage on TV news tends to frame the content using a thematic structure. In other words, media coverage of unemployment tends to provide more general statistical information and social background than personal stories of individuals. Although Iyengar (1991)

only dealt with the coverage of unemployment, I assume that we can apply the same characteristics of media coverage for other issues commonly covered, including the inflation rate and the GDP, as regular government statistics related to these issues are similarly reported. This finding is in line with the feature of economic voting in the U.S. – the importance of *sociotropic* voting. How about economic news related to the stock market? How the media treats Wall Street?

When voters receive economic news from media, partisan voters tend to interpret the news *politically*. For example, when the media reported the national unemployment rate was 7.8 percent in October 2012, Democrats understood that the unemployment rate has improved since four years ago while Republicans see the same number as bad sign of the economy. Even some partisans became skeptical against statistical data released by the government when his opponent was in the White House. For example, after the government released an employment rate in October 2012, a former CEO of General Electric Jack Welch tweeted “Unbelievable jobs numbers these Chicago guys will do anything...can’t debate so change numbers.”²

Messages from candidates also provide important economic information for voters as the economy is one of the important issues in every election. Therefore, candidates include economic issues in their speeches and campaign advertisements during elections. Vavreck (2009) found that the economy is the second dominant topic in both advertisements and speeches from 1952 to 2000 presidential elections.

When candidates talk about the economy, what kind of topics do they choose?

²Chris Isidore, “Jack Welch questions job numbers.” CNN Money. <http://money.cnn.com/2012/10/05/news/economy/welch-unemployment-rate/index.html>

The *political business cycle* model assumes that two parties have different policy goals: lower unemployment rate for the Democratic Party and lower inflation rate for Republican Party (Nordhaus, 1975; Hibbs, 1987; Alesina and Rosenthal, 1995). On the other hand, Petrocik's *issue ownership* hypothesis argues that parties "own" specific issues, therefore both candidates provide different messages during the campaigns (Petrocik, 1996).

If we combine *political business cycle* model and *issue ownership* hypothesis, we would expect that Democratic candidates would talk more about unemployment rate while Republican candidates argue more about inflation rate in their speech and advertisements. Yet recent studies find that candidates from both parties choose similar topics (Sigelman and Buell, 2004; Sides, 2006) based on which topic is more important during the election (Ansolabehere and Iyengar, 1994).

Which party "owns" Wall Street topics? As I argue in the previous chapter, both the Democratic Party and the Republican Party have promoted the rise of Wall Street especially after the Clinton administration. President Clinton deregulated the financial industries by the Gramm-Leach-Bliley Act in 1999. President George W. Bush promoted ownership society as well as proposed privatization of Social Security.

Figure 5.1 shows the frequency of three economic terms; *unemployment*, *inflation*, and *Wall Street/stock*, in the presidential debates from 1980 to 2012. In general, GOP candidates owned inflation in the debate. Except the 1996 election, GOP candidates mentioned inflation more than Democratic candidates. Democratic candidates did not mention inflation at all in 1988 or 2008. On the other hand, Democratic candidates dominated the issue of the unemployment rate in 1992 and

2000 but the GOP candidate did in 2012. Finally, GOP candidates dominated stock market and Wall Street from 2000 to 2008.

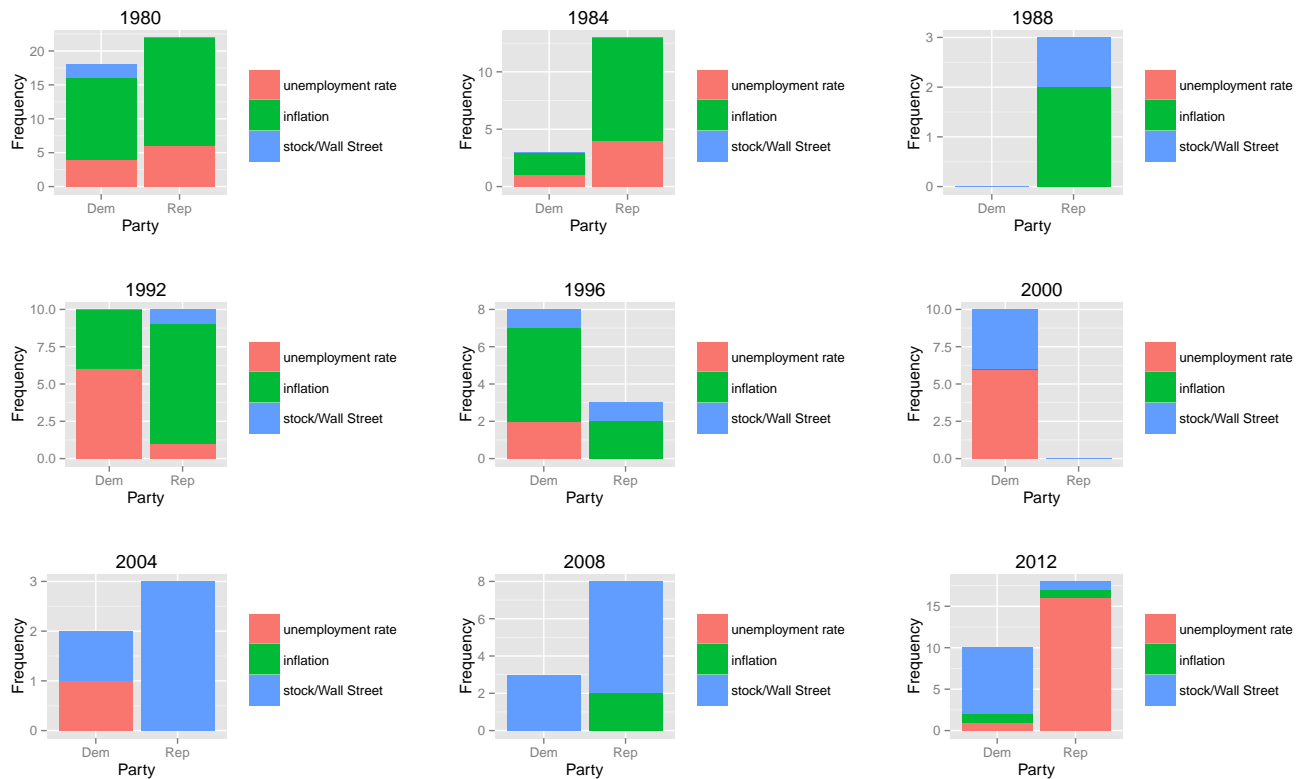


Figure 5.1: Term Frequency in the Presidential Debate from 1980 to 2012

5.3 Empirical Analysis

There are many studies that analyze newspapers to examine how the media describe the national economy and affect people’s understanding of the economy, presidential approval, and voter choice. For instance, Goidel and Langley (1995)

examined the *New York Times* front pages from 1982 to 1992 and found that the articles followed negative economic conditions more often than positive economic conditions. In this respect, news coverage is linked to the public's evaluation of the economy.

Although traditional media have been in decline over the last decade as fewer people read newspapers or watch network news than they used to, traditional media's influence is still significant. In addition, when we analyze the changes of news coverage over time, it is better to analyze the content of traditional media than new media because no data on new media from the 1980s exist. In addition, it is not appropriate to use data from business newspapers or business cable channels to analyze the relationship between news and voters because voters do not use these sources as their major news sources. Rather, it is important to know how the traditional media describe the stock market and politics because these sources still reach a very large portion of the middle-class; indeed, during most of this time frame (1981-2012) newspapers were still one of the most important means of acquiring news.

I chose to analyze Section A in the *New York Times* because it remained the premier paper for political, economic, and business news during this time. As a comparison, I also analyzed Section A in *USA Today* from 1991 to 2012.

Using *LexisNexis Academic* and focusing on the *New York Times* Section A from 1981 to 2012, I collected articles using three keyword phrases: "Wall Street," "stock market," and "Dow Jones."³ The top of Figure 5.2 shows some important

³The *New York Times* is organized by *sections*; most business and economic news is located in

trends. When the stock market declined dramatically, the number of articles increased. For instance, the average number of articles was fewer than 150 each year from 1981 to 1986. However, after *Black Monday* in 1987, the number increased rapidly in 1987 and 1988. A similar trend occurred in 2008 and 2009 after the financial crisis.

The *New York Times* features eight main desks: Editorial, Foreign, National, Business/Financial, Metropolitan, Cultural, Style, and Sports.⁴ In general, economic news are issued from the Business/Financial Desk while domestic political news are issued from National Desk. Therefore, if the stock market is purely economic news, the ratio of articles from the Financial Desk should be higher than those from other desks. When the stock market becomes political news, the ratio of articles from the National Desk should increase over time. In order to verify whether or not this trend exists in the *New York Times*, I sorted each article in *Section A* based on desks; the bottom of Figure 5.2 shows the ratio of stock market articles.

According to Figure 5.2, stock market news is not only featured at the Financial Desk; all desks discuss the stock market and Wall Street. In the 1980s, the Business/Financial Desk (Financial Desk hereafter) and Editorial Desk reported stock market news. However, the ratio of Financial Desk declined in the early 1990s while that of the National Desk peaked in 1992 and 1994, which were both election

the Business Section. However, I only analyzed *Section A* for two reasons. First, *Section A* is the main section; it includes the front page and the main articles. Second, the purpose of this study is to analyze how the news of the stock market described in political contexts and political news is located in *Section A*.

⁴There are twenty three desks in total.

years. Another peak period for the National Desk was in 2000 and 2003. It is possible that these peaks stem from the debate about the privatization of social security and the capital gains tax, which was cut by the Bush administration in 2003.

Although Figure 5.2 is useful in understanding the structure of stock-related news over time, it does not provide any information regarding the kinds of terms the *New York Times* chose and reported on, or the topics behind the terms. To determine this information, first I counted each term appearing in the paragraphs that included three keywords. Second, using *Wordfish* (Slapin and Proksch, 2008), I estimated the latent trend of articles over time. Finally, I estimated the latent topics of stock market paragraphs using topic models.

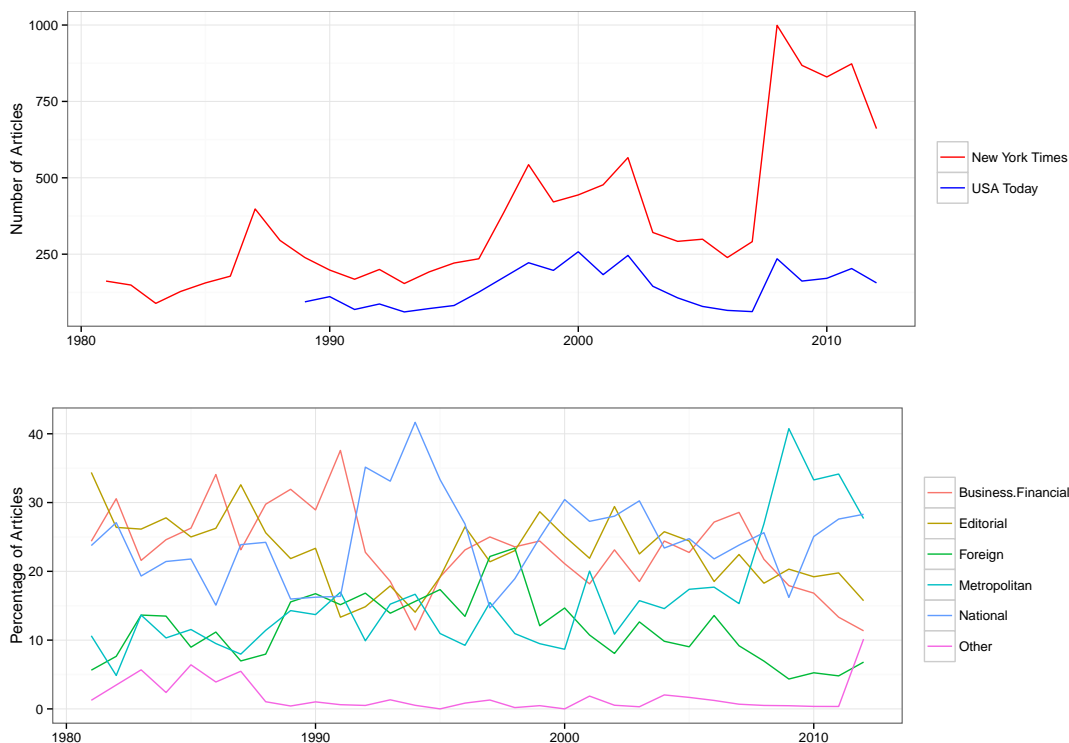


Figure 5.2: Top: the numbers of stock market articles in the *New York Times* from 1981 to 2012 and *USA Today* from 1989 to 2012. Bottom: Percentage of “Wall Street” articles in the *New York Times* by “Desk” from 1981 to 2012.

5.3.1 Method: *Wordfish* and Topic Models

Content analysis has been widely used to study newspaper articles. Traditionally, researchers have employed a manual coding method - a methodology in which researchers create rules for coding in advance and several researchers on the team code each article manually. The advantage of coding by hand is that the researcher can design the original coding scheme as appropriate to the research goal.

However, a major drawback to this method is that the quality of the research relies heavily on each coder's objectivity and ability. In addition, it is difficult to deal with a large dataset with this method. Therefore, in previous studies, researchers only analyzed newspapers within short periods, such as analyzing newspaper articles during campaign periods or a specific area.

Recent computer software improvements for content analysis have decreased the cost involved in analyzing text-oriented data. According to Quinn et al. (2010), content analysis includes five methods: *reading*, *human coding*, *dictionaries*, *supervised learning*, and *topic models* (the last three methods use computer software for coding text data). As an example of the *dictionary* method, scholars have used *InfoTrend* (Fan, 1988) for political science content analyses since the 1990s (Shah et al., 1999; Nadeau et al., 1999). Using *InfoTrend*, researchers prepare the lexicon that includes the related terms and keywords as well as word relationship rules. In the case of Nadeau et al. (1999), who analyzed presidential campaign articles for 1984, 1988, 1992, and 1996, the researcher created the rules that allowed the program to sort each paragraph based on whether it is for or against the candidates. At the same time, some coders randomly code-select paragraphs and compare them with the results from the program.

Compared to other coding methods, *Wordfish* (Slapin and Proksch, 2008) and *topic models* (Blei and Lafferty, 2009) allow scholars to analyze a large amount of text data at a low cost (Ho and Quinn, 2008; Quinn et al., 2010; Lowe, 2008; Slapin and Proksch, 2008). Using these methods, scholars do not need a dictionary or code scheme. The significant difference between the previous method and *Wordfish*

and the *topic model* is that the computer counts a frequency of certain terms in each document and locates them in one or more dimensions. For example, Slapin and Proksch (2008) used the *Wordfish* package in *R*, which does not rely on human coding, but counts the frequencies of the terms in articles within groups (e.g., a manifest in each political party), then estimates each document’s latent location. The advantage of *Wordfish* is that the procedure is completely automated, thereby enabling researchers to analyze large numbers of articles.

Assumption of *Wordfish*

Wordfish assumes that each word’s frequency has Poisson distribution. That is:

$$y_{ij} \sim Poisson(\lambda_{ij}) \tag{5.1}$$

$$\lambda_{ij} = \exp(\alpha_i + \psi_j + \beta_j * \omega_i) \tag{5.2}$$

where y_{ij} is the count of word j in document i ’s articles, α is a set of year fixed effects, ψ is a set of word-fixed effects, β is the estimate of a word-specific weight capturing the importance of word j in discrimination between years, and ω is the estimate of document i ’s position. In other words, if ω is the same between document i and document $i+1$, it means that the stock market news is very similar between these documents. On the other hand, if ω changed over the years, it means that the stock market news changed during that period. That is, ω and β allow us to understand which words differentiate stock market news between years.

To use the news articles in this computer software, at first I extracted only paragraphs that include at least one keyword (“Wall Street,” “Dow Jones,” “stock

market”). If we want to know what kind of terms and topics were included with these keywords, we need to exclude paragraphs which do not include any of these keywords. Second, we need to convert the paragraphs to computer-friendly text data files. I saved all paragraph on one document file by year.

After making 32 text files via Python code, I converted them to a computer-friendly text data file. In much of the text-mining software, the data file should be in a corpus format. Using the package *tm* (Feinerer, 2010) in *R*, I removed numbers, punctuation, and common words in English (e.g., is, you, me). Next, using *Snowball* (Hornik, 2009), a stemmer package in *R*, all terms were converted to stems.

Topic Models

Although *Wordfish* is simple and easy to employ via the software, some limitations arose for the current study. First, we do not know what the *Wordfish* score for ω means intuitively. If each article were categorized by topics in advance, ω would show the change in location of topics over time. For example, Proksch, Slapin and Thies (2011) estimated the party position in Japan using newspaper articles from 1960 to 1998. Before estimating the *Wordfish* score for ω or party location, Proksch, Slapin and Thies (2011) sorted each document according to three topics: domestic and social policy, economic policy, and foreign policy. However, in the current study, I do not categorize each paragraph and document by topics. Rather, my goal is to *find* the relationship between stock market terms and political terms without using a pre-coding process. Because each document is a corpus of paragraphs in year i , *Wordfish* estimates document i 's one-dimensional location over time. In other words,

we can see the “change” in documents over time but we do not know what it means.

On the other hand, *topic models* via Latent Dirichlet Allocation (LDA) (Blei and Lafferty, 2009) estimate the probabilistic distribution of terms and find latent topics behind terms used in documents. LDA assumes that we observe word w_d in document d , where there are latent topics k and the distribution of topic k is described as β_k . The proportion of topics for the d th document is expressed as θ_d . Finally, topic assignments for the d th document are z_d . That is:

$$p(\beta_{1:K}, \theta_{1:D}, z_{1:D}, w_{1:D}) = \prod_{i=1}^K p(\beta_i) \prod_{d=1}^D p(\theta_d) \left(\prod_{n=1}^N p(z_{d,n} | \theta_d) p(w_{d,n} | \beta_{1:K}, z_{d,n}) \right)$$

5.4 Results

5.4.1 Term Frequencies

This subsection discusses the frequency of important terms in my *New York Times* data. The data provided more than 20,000 words in the paragraphs related to the stock market from 1981 to 2012. However, many words only appeared a few times in certain years, making their calculation inefficient. For this reason, I removed all the words from the files with a zero word count in 95% of the documents.

Wall Street, Stock Market, and Dow Jones

Figure 5.3 shows the number of the three keyword phrases (“Wall Street,” “stock market,” and “Dow Jones”) from 1981 to 2011. “Wall Street” has the highest frequency in the *New York Times* over this entire time period. Although “Dow Jones” indicated no specific trend, two of the keyword phrases (“Wall Street” and “stock market”) demonstrated the same trend: Their frequency rose in 1987, 2002, and 2008. The reason for the increase in 1987 was Black Monday, which occurred in October of that year. The frequency of these two phrases declined during the early 1990s, then increased again during the late 1990s, with two peaks in 1998 and 2002. The numbers declined again after 2003 until the financial crisis of 2008.

Presidential Candidates

Figure 5.3 shows the frequencies of terms related to the presidential candidates. Except in 1987, the *New York Times* did not use “president” in relation to the stock market from 1981 to 1990. However, the frequency of “president” increased gradually during the 1990s, peaking in 2002. It fell again in the mid-2000s and increased again in 2008. This trend could be related to the decline of the stock market. Obviously, the peak in 1987 stems from Black Monday and the peak in 2008-09 is related to the financial crisis. On the other hand, presidential candidates’ names were used in election years in combination with stock market terms. Two spikes occurred during the 2000s - in 2000 and 2002 - which might be related to the debate about the privatization of Social Security during the elections. These data provide strong evidence that stock news became political news in the 2000s. The financial

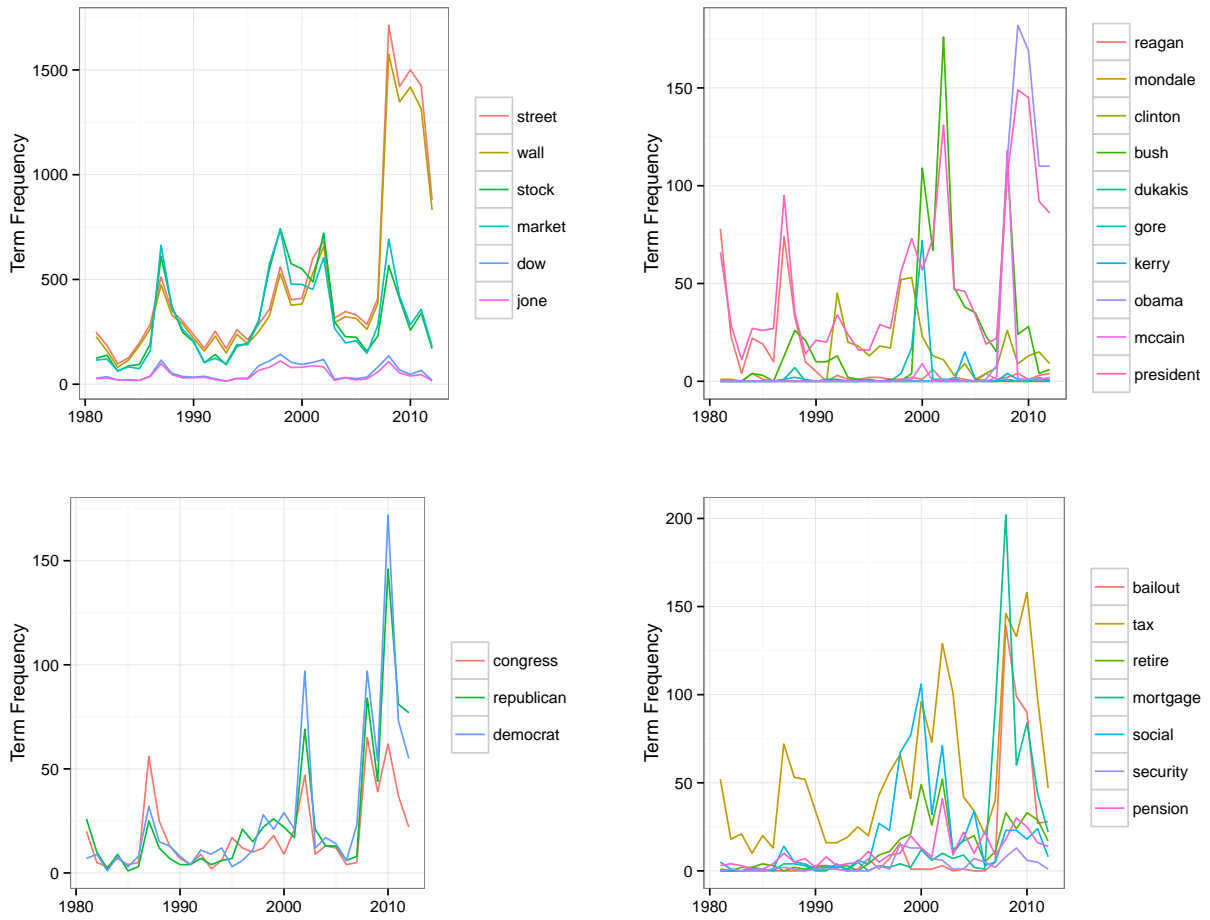


Figure 5.3: Frequency of terms in the *New York Times* from 1981 to 2012.

crisis and the bailout of the financial industries provide additional evidence as well. The trends related to “congress” and the political parties are similar to those related to presidents’ names. Four spikes occurred over the three decades: 1987, 2002, 2008, and 2010. In 1987, “congress” appeared 56 times, while it appeared 47, 65, and 62 times in 2002, 2008, and 2010, respectively. On the other hand, party names did not appear many times during the 1980s but they increased after the 1990s. An interesting phenomenon is that, during the off-peak period, no gap of usage occurred between “congress” and party names. However, during the four spikes, the gap increased significantly. Moreover, party names appeared more often than usual in 2002, 2008, and 2010 while “congress” was used more than party names in 1987. Public policies were also mentioned as related topics of the stock market in the newspaper articles. Figure 5.3 shows the frequencies of five keywords (bailout, mortgage, retire, social security, tax) within this period. “Tax” was mentioned more than the other terms, especially when the stock market declined in 1987, 2002, and 2008. Obviously, “mortgage” spiked after the financial crisis in 2008 due to the subprime problems. Although I expected the frequencies of “social security” and “retire” to increase in 2000 due to the debate about the privatization of social security, no significant trend related to these terms emerged. Based on these results, I find that the stock market has been used to describe the economy in the *New York Times* at an increasing rate since the 1990s. More importantly, it was mentioned in an effort to discuss not only economic issues, but also political issues. In particular, when the stock market fell significantly, the media mentioned the stock market in terms of social and political issues.

These results indicate that the stock market was described more often after 1990 than during the 1980s. More importantly, it was mentioned not only in terms of the economy, but also in relationship to political issues. In particular, the stock market is currently an important issue not only for stockowners, but also for non-stockowners as it is related to their retirement and mortgage.

5.4.2 Wordfish Estimation

Wordfish calculates latent positions of each term (Figure 5.4) and document by year (Figure 5.5). Table 5.1⁵ and Figure 5.4 show the estimated location of terms and their plots, the *Wordfish* estimation of each word j 's location β and fixed effect ψ . The high score of ψ (y axis) means that the word's frequency is high. If the word only occurred during certain years, then the word requires a larger absolute value of β (x axis).

Table 5.1 shows that β for "congress," "republican," and "democrat" are less than 1 and ψ are more than 2, which means these terms were used in the contents of stock market many times and always over the decades. Among other president and presidential candidate, "Clinton" was used many times as well as many years. On the other hand, "Obama," "Mondale," "Romney" have large absolute value of β , which means their names were used only certain period. "bailout" and "Subprime" have larger absolute value than other policy terms in Table 5.1 while ψ for "bailout" has large value, which shows that newspaper did not mention about "bailout" and Wall Street at the same time until recently.

⁵Table 5.1 shows only the β and ψ from terms in Figure 4.1 to 4.4

Table 5.1: Estimated Latent Term Location β and ψ for Political Terms

Categories	Term	β	ψ	
Congress	Congress	0.429	2.543	
	Republican	0.759	2.669	
	Democrat	0.766	2.753	
President	President	0.694	0.33	
	Reagan	-1.922	1.135	
	Clinton	0.11	2.195	
	Bush	0.372	2.865	
	Obama	2.239	0.249	
	Carter	-0.345	-0.205	
	Mondale	-3.004	-3.127	
	Gore	-0.113	0.915	
	Kerry	0.877	-0.963	
	McCain	1.274	0.249	
	Romney	4.994	-6.823	
	Public Policy	Tax	0.307	3.446
		Retire	0.493	0.327
Social		0.167	2.681	
Security		1.377	-1.877	
Pension		0.454	2.027	
Bailout		1.409	1.201	
	Subprime	1.238	0.184	

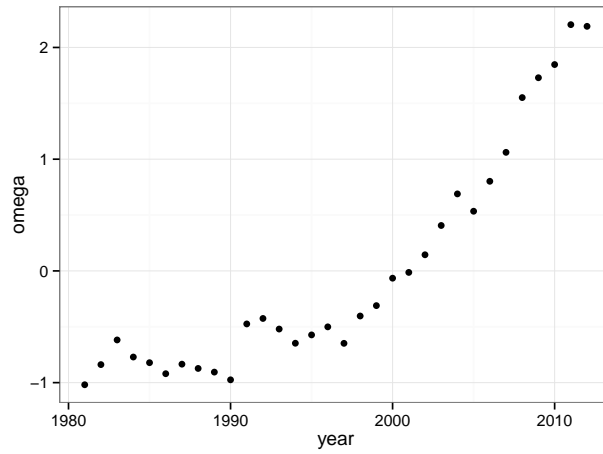


Figure 5.5: Latent positions of Wall Street articles in the *New York Times* from 1981 to 2012

Times) from different years. Therefore, it is difficult to define what the low value of ω represents. Instead, ω only tells us “difference” of articles by year. That is, the topics of stock market articles in the *New York Times* changed dramatically after the 2000s but we still do not know what the change is from this estimation.

5.4.3 Topic Model Estimation

In order to find latent topics in stock market paragraphs, I used *topicmodels* (Blei and Lafferty, 2009; Grün and Hornik, 2011). Stock-related paragraphs in the *New York Times* from 1981 to 2012 and *USA Today* from 1991 to 2012 were used in *topicmodels*. Table 5.2 is the summary of results from the *New York Times* from 1981 to 2012.⁶ To do the analysis, I selected five topics in each year and each topic is expressed by five terms. If there are any political terms in Table 5.2, stock market news were not only financial but also political news during that year.

Except from 1987 to 2003, there was only one political topic out of the five top topics in each year. “Reagan” was a a political topic from 1981 to 1986. The topic was changed to “crash” after the Black Monday stock market crash in 1987.

Political topics disappeared during the 1990s. I found only two years (1992, 1993) where politics were discussed with the stock market. Both years include the topic “Clinton.” In 1992, “Perot” was also mentioned because of the presidential election year. However, I cannot find any political topics in other election years in the 1990s.

Wall Street news became political and policy news during the 2000s. First, Wall Street was discussed as “tax” issues because of the Bush tax cuts in 2001 and 2003. It is also discussed as Social Security issues because George W. Bush proposed privatization of Social Security during this period.

Finally, after the financial crisis in 2008, Wall Street news became partisan

⁶For all results, see Appendix.

news. I found the topic “bailout” in 2008. I also found political party as a topic in 2011 and 2012.

Table 5.2: Political topics in Wall Street articles in the *New York Times* from 1981 to 2012

Year	Political Topic 1	Political Topic 2
1981	reagan, presid, econom, tax, financ	
1982	reagan, presid, compani, hous, econom	
1983	firm, analyst, company, volcker, larg	
1984	compani, reagaon, million, turn, peopl	
1985	time, presid, regan, reagan, capit	
1986		
1987	presid, time, reagan, crash, hous	deficit, budget, congress, billion, plung
1988	financ, crash, deficit, state, govern	
1989	tax, rate, crash, govern, high	
1990		
1991		
1992	clinton, japan, work, perot, share	
1993	busi, hous, time, clinton, tax	
1994		
1995		
1996		
1997		
1998		
1999		
2000	invest, secur, social, bush, money	
2001	invest, bush, presid, tax, peopl	
2002	corpor, bush, account, presid, democrat	
2003	bush, million, financ, time, world	tax, economi, state, cut, invest
2004	analyst, bush, tax, billion, economi	
2005	invest, secur, social, bush, money	
2006		
2007		
2008	crisi, plan, econom, bailout, hous	
2009	bank, obama, execut, govern, econom	
2010	invest, secur social, bush, money	
2011	obama, support, democrat, republican, polit	
2012	obama, romney, republican, campaign, presid	

Table 5.3: Political topics in Wall Street articles in *USA Today* from 1991 to 2012

Year	Political Topic 1	Political Topic 2
1991		
1992	clinton, econom, gore, invest, candid	clinton, investor, average, still, good
1993	clinton, million, presid, camp, foley	
1994	counti, state, clinton, million, past	
1995		
1996	industri, clinton, cut, rare, dole	industri, investor, american, chairman, congress
1997	financ, japan, million, clinton, econom	
1998	invest, clinton, tax, secur, social	
1999	invest, social, tax, money, secur	
2000	economi, price, gore, close, campaign	
2001	bush, nation, analyst, far, need	secur, social, invest, bush, tax
2002	corpor, bush, presid, democrat, congress	
2003	tax, state, bush, econom, billion	
2004	recent, home, rise, pension, analyst, pay	
2005	invest, secur, social, bush, gore	
2006		
2007	financ, republican, univ, call, democrat	war, industri, pension, financ, social bush, invest, secur, worker, industri
2008	bailout, invest, economi, govern, congress	
2009	financ, work, american, busi, bailout	
2010	social, invest, secur, bush, tax	
2011	debt, big, washington, work, averag	mccain, obama, hous, financ, econom obama, big, plan, presid, congress
2012	romney, job, care, money, peopl	

Although the latent location of Wall Street news in each year estimated by *Wordfish* does not tell us the meaning of location, I find some trends from the results of the topic models.

Table 5.3 shows the results of topic models with stock market paragraphs in *USA Today* from 1991 to 2012. Compared to the results from the *New York Times*, *USA Today* described Wall Street in more political terms. Political topics were described almost all years except three (1991, 1995, 2006). Additionally, there were two political topics in 9 years in *USA Today* while there are only 2 years in the *New York Times*.

It is clear that Wall Street news included election topics in the presidential

election years. We see candidates' names in 1992, 1996, 2000, 2004, and 2008. From 2000, Wall Street news became policy news in *USA Today* as well. I also find that political party, congress, and Social Security became important topics after the 2000s. Finally, the financial crisis in 2008 brought many topics. For example, Bush's privatization of Social Security became a topic again in 2010. I assume that it was because there was a midterm election and *USA Today* discussed Bush's proposal retrospectively. Recent social events against financial industries on Wall Street became a topic in 2012.

From the two analyses with the *New York Times* and *USA Today*, I find some trends in topics. First, from the late 1980s to the end of 1990s, most topics are about the stock market *per se* or economy, while some are about the president or government. Second, the stock market news became policy-related news after the 2000s. Third, the financial crisis in 2008 made Wall Street news ideological.

5.5 Discussion

Many historical documents have been recently converted to digital files. For example, we are able to analyze the frequency of terms in many books from 1800 to the present via Google.⁷ With the increase in digital text data, the potential for computer-driven content analysis has been extended.

Through the use of digital text data, this report aims to analyze how the stock market has been described in traditional media over the last three decades.

⁷The result with "Wall Street" is: http://books.google.com/ngrams/graph?content=Wall+Street&year_start=1800&year_end=2008&corpus=0&smoothing=0

In particular, I focus on the political keywords included in the stock market articles using three unique methods.

According to the two estimation methods, I find some significant characteristics of stock market news during the last three decades. First, in terms of quantity, there are two significant events that increase the quantity of news: (1) a decline in the stock market and (2) policy proposals by election candidates. In particular, Black Monday of 1987 and the financial crisis of 2008–2009 had strong impacts on increasing discussion on the topic of the stock market and economy. Additionally, the debate about privatization of Social Security made stock market news into a political topic. The bailout of the financial industry after the financial crisis also extended a range of topics. That is, stock market news consists of not only Wall Street topics, but also topics about the president, political parties, policies, social movements, and ordinary citizens—*Main Street*.

Finally, in order to extend this study, I have to overcome some issues. First, I would apply this analysis to other media. One possibility is to analyze other national and local newspapers. The other possibility is to analyze other media, such as radio and TV. In that case, I will obtain transcripts of the media that I will analyze. Second, even if I can obtain recent newspapers or transcripts as digital data, there is no guarantee on how far we will be able to go back in history. For example, we can obtain *USA Today* articles from 1989, while NBC news articles are available from 1997 via *LexisNexis Academic*. If we want to examine the relationship between stock market news and political news, we need data from a longer time period.

Chapter 6

The Effect of Stock Ownership on Economic Knowledge

Homer: “I’d like to buy 500 shares of Animotion Incorporated.”

Man: “Ok. Ah now before I execute this order are you sure you understand the risks of stock ownership?”

Homer: “Absolutely!”

– *The Simpsons*¹

6.1 Introduction

In the previous chapter, I investigated how the media have treated stock market news since the 1980s and found that the volume of Wall Street news have become a policy-related news such as the debates over privatization of Social Security by George W. Bush and the bailout of financial industries after the financial crisis in 2008. Wall Street news is ubiquitous regardless sections – we will find it not only in the political and economic sections but also sports and culture sections. How does this environmental change affect people’s knowledge? More specifically, do people

¹Mike B. Anderson. Episode 9, Season 12. January 7, 2001. Television.

in general know about the stock market? Or do some people know about the stock market but not others? If so, what kind of people know about the stock market and who do not?

Although there are many studies focusing on economic evaluations by the public and its effects on their voting behavior, the levels of *economic* knowledge among the public has not been a main concern for political scientists. *Sociotropic voting* hypothesis in economic voting literature argues that the national economic conditions affect outcomes in U.S. presidential elections (e.g. Nadeau and Lewis-Beck, 2001). In order to examine the effects at the aggregate level, scholars use GNP or GDP as a good economic indicator to predict election outcomes (Abramowitz, 1988; Campbell and Wink, 1990; Fair, 1978; Lewis-Beck and Rice, 1992). However, Nadeau and Lewis-Beck (2001, p. 160) argue that different people weigh economic indicators different ways. They argue that respondent Betty Brown may consider the unemployment rate a more important indicator than inflation and the trade deficit, but respondent Jane Smith considers economic growth a more important indicator than the unemployment rate. In other words, people have different motivations to evaluate national economy and the difference of motivation might affect their levels of knowledge as well.

According to previous studies, there are two paths by which people would know about the national economy including the stock market conditions. The first path is that people are, by and large, familiar with stock market conditions because people receive information about the national economy without motivation. The *by-product* model argues that people receive information about the national economy

as a *by-product* of their daily activities – knowing inflation from gas prices, unemployment rate from friends recently getting laid off (Downs, 1957; Popkin, 1991). In terms of stock market information, the increase of stock-related articles in *New York Times* tells us that even if people read the sports section, they have a chance to learn about stock market issues. Those who are interested in politics received stock market news as political and policy issues as well.

The second path is that people who own stocks have motivation to gain stock-related information in order to maximize their profits. According to political knowledge literature, *motivation*, *opportunity*, and *ability* (MOA) are key factors for high levels of political knowledge (Delli Carpini and Keeter, 1996; Luskin, 1990; Prior, 2007). Especially, in the *conditional political learning* model, Prior (2007) argues that the media environment is an important opportunity for political learning and it affects *motivation* and *ability* as well.

I argue that we might be able to adopt the MOA model for economic knowledge as well. Because Betty is concerned about unemployment while Jane considers the GDP, Betty might know the current unemployment and Jane might know the GDP rate. By the same token, stockowners might know about the stock market condition such as the Dow Jones Industrial Average (DJIA) compared to non-stock owners because their motivations toward the stock market are different.

The objective of this chapter is to investigate the effect of stock ownership on economic knowledge. In the next section, I summarize two models that explain how people receive economic and political information and consider how stock ownership might affect their knowledge. In Section 3, I introduce my hypotheses regarding the

effect of stock ownership on economic and political knowledge. Section 4 describes the results of my analyses with the Cooperative Congressional Election Study 2010 (CCES 2010) and Section 5 concludes this chapter.

6.2 Roots of Economic Knowledge

6.2.1 Exploring News on Television

There is a polarization in terms of media usage among the U.S. public. The first pole is whether or not people watch and listen to political and economic news and the second is regarding ideological differences among those who acquire political and economic information.

I argue that this polarization has been promoted by the diffusion of cable television and the Internet. Prior to cable television and the Internet, people's choice were limited. There were only three major channels – ABC, CBS, and NBC. Therefore, once we turned on the TV, everything we watched from entertainment to news was on the same channel. Therefore, if people kept turning on the TV, there was a chance that they would “watch” news even if they did not have the intention to do so. In other words, people received political and economic news as a by-product of media usage (Downs, 1957; Popkin, 1991).

This *by-product* theory on television, however, might not be valid under the current media environment because people do not watch network news anymore. According to the Pew Research Center's Project for Excellence in Journalism, about 52 million people watched evening news in 1980 but that number has declined to

23.7 million by 2011.² Instead, two of every three U.S. households had access to cable television by 2002.³ Furthermore, 50% of voters cite cable news as a main source while network news was named by 21% of voters in November 2012.⁴ My own data, the CCES 2010, shows a similar trend. Figure 6.1 shows that only 17.8% of respondents watched at least one of evening news on network channels regularly and 26.4% of them watched sometimes, but 55.6% of respondents hardly ever or never watched any evening news. On the other hand, 52% of respondents watched at least one cable news channel regularly, 26% of them watched sometimes, and 21% of them hardly ever or never watched any cable news channels.

Is there any effect of declining network news? The significant difference between network channel and cable television is that channels in cable television are specialized by theme – sports, cooking, movies, news, and so on. If you are not interested in politics but enjoy entertainment, there is no chance to watch news unintentionally. By the same token, if you are political junkie, you can watch primarily political programs. Therefore, it is possible that Downs’ *by-product* theory in terms of political knowledge is not valid under this media environment.⁵ Prior (2007) analyzes the effect of entertainment on cable television and the Internet on turnout and finds that entertainment on cable television and the Internet has effects of demobilization.

²<http://stateofthedia.org/2012/network-news-the-pace-of-change-accelerates/network-by-the-numbers>

³“History of Cable Television.” National Cable & Telecommunication Association. <http://www.ncta.com/About/About/HistoryofCableTelevision.aspx>

⁴<http://www.people-press.org/files/legacy-pdf/11-15-12%20Post%20Election.pdf>

⁵Of course some entertainment program treat politics.

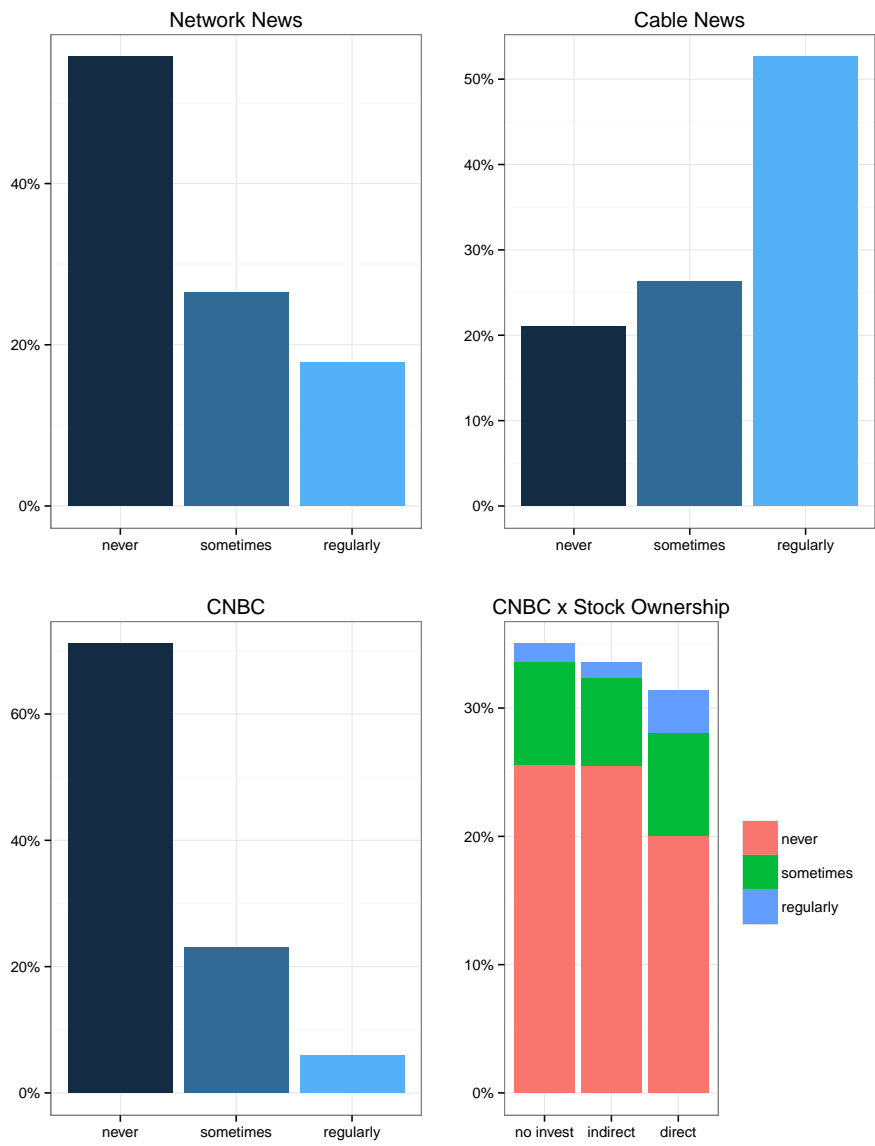


Figure 6.1: Top: network news and cable news viewers in the CCES 2010. Bottom: CNBC viewers in terms of stock ownership in the CCES 2010.

Regarding the polarization among news viewers, previous studies show that people choose news channels based on their ideological preference – liberals watch MSNBC and conservatives watch FOX News. Furthermore, there are partisan gaps in credibility of these channels. Republicans rate the believability higher on Fox News (67%) than Democrats (37%). At the same time, Republicans do not trust MSNBC (32%) while the rating of MSNBC among Democrats is quite high (69%).⁶

6.2.2 Exploring Economic News on Television

In the CCES 2010, I also asked respondents how often they watch CNBC (Figure 6.1 bottom) and found some evidence that stock ownership increases motivation to acquire economic news on television. More than 70% of respondents never watched CNBC and only 6% of respondents watch CNBC regularly. If I calculate the same data in terms of stock ownership, about 11% of direct stock owners watch CNBC regularly and 26% of them sometimes watch the channel while only 4% of non-investors watch CNBC.

6.2.3 Exploring Economic News on the Internet

Television is not the single information source for Wall Street news. Recently people use the Internet as a main news source. Especially those who trade stocks may check news on the Internet more often than those who do not since online trade is popular. Also, people can acquire a myriad of economic and business information

⁶<http://www.people-press.org/2012/08/16/further-decline-in-credibility-ratings-for-most-news-organizations>

via the Internet. Figure 6.2 is another question in the CCES 2010 regarding exploring stock news online, and there is a clear trend in stock news consumption online. More than 20% of non-investors never check stock news online while 19.4% of indirect stock owners and 45% of direct stock owners check stock news at least every day. It is a clear difference between indirect and direct stock owners as well. 21.1% of direct stock owners but only 6% of indirect stock owners check stock online many times a day.

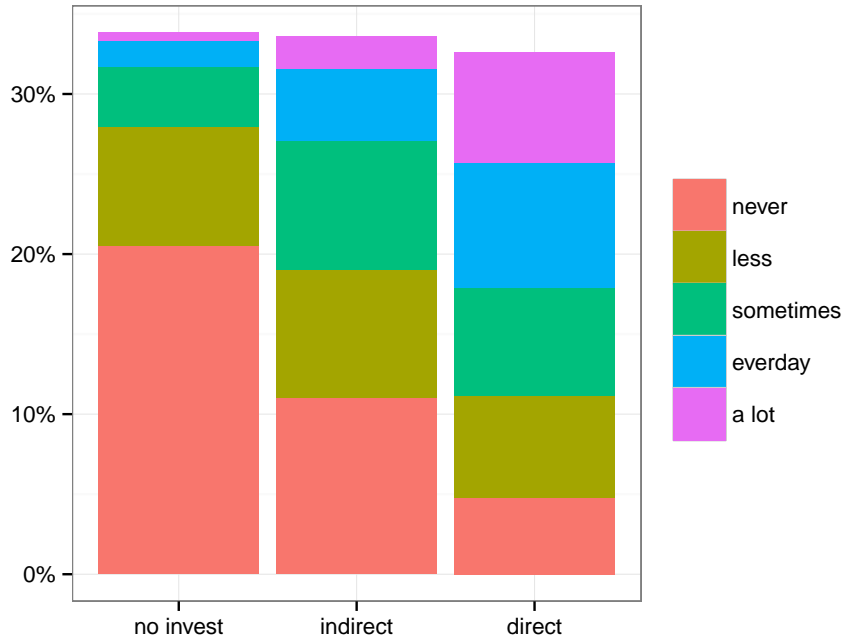


Figure 6.2: Check stocks online

6.3 Hypotheses and Data

The previous subsection shows that stock owners collect stock-related information via television and the Internet. Moreover, even among stock owners, if people trade stocks directly, their motivation for collecting business and economic information is higher than people who only own stocks as mutual funds or retirement plans.

From these initial analyses, it is possible that the difference of motivation affects people's economic knowledge. Thus, I created two hypotheses as following:

Hypothesis 1: The level of economic knowledge among direct stockowners is higher than indirect stockowners and non-stockowners

Hypothesis 2: The level of economic knowledge among indirect stockowners is the same as non-stock owners

To analyze these hypotheses, I use four economic knowledge questions that I asked the respondents in CCES 2010: *Dow Jones Industrial Average (DJIA)*, *national unemployment rate*, *state unemployment rate*, and *national inflation rate*. In a political science survey such as American National Election Studies (ANES), many questions measuring political knowledge are multiple choice questions where respondents choose the correct answer from four or five choices. We may follow this common procedure in order to measure economic questions. However, there are some technical difficulties in measuring economic knowledge by multiple choice questions. First, volatility in the stock market is unpredictable, so it is possible that stock market conditions would change dramatically between the submission of the questionnaire

and when respondents answer the questions in October and November, and all the choices would be wrong.⁷ Second, because unemployment rates vary by state, it is technically impossible to create a multiple choice question for this issue. Especially when the national economy is in a recession, the gaps of unemployment rates between states are high. The lowest and highest state unemployment rates in October 2010 were 3.8% in North Dakota and 14% in Nevada, respectively.

To solve these problems, I asked respondents to answer actual numbers of four economic indicators directly. CCES 2010 is a web-based survey, hence I could control how many seconds respondents can use to answer questions in order to avoid finding answers somewhere else. I allowed respondents twenty seconds to type their answer on screen. After twenty seconds, the screen was changed and respondents could not answer anymore. These four economic knowledge questions are:

UTA221a: *Do you happen to know if the Dow Jones Industrial Average is currently closer to?*

UTA221b: *Do you happen to know if the NATIONAL unemployment rate is currently closer to?*

UTA221c: *Do you happen to know if the unemployment rate in YOUR STATE is currently closer to?*

UTA221d: *Do you happen to know if the rate of inflation is currently closer to?*

⁷I had to submit my questionnaire to YouGov in August 2010.

Unlike multiple choice questions, it is not simple to “grade” respondents’ answers in these questions since respondents gave actual numbers for each question. For example, DJIA was 11,000 points in October 2010 and suppose respondent Betty, Chris, and David answered 10,500, 10,000, and 9,000, respectively. In this case, it is clear that Betty’s answer is very close to the correct answer (the difference is only 500 points) and David’s answer is too low (the difference is $11,000 - 9,000 = 2,000$ points). Hence I could grade Betty as correct ($y_{dow} = 1$) and David as incorrect ($y_{dow} = 0$). On the other hand, it is difficult to evaluate Chris’s answer with the dichotomous scheme.

Instead of grading respondent’s answer as dichotomous (*correct* or *incorrect*), I grade it with five scales. First, I calculated α_{ij} , the absolute distance between correct answer Y_j and respondent i ’s answer y_{ij} :

$$\alpha_{ij} = |Y_j - y_{ij}| \tag{6.1}$$

Second, I obtained β_{ij} , a log transformation of α_{ij} :

$$\beta_{ij} = \ln(\alpha_{ij} + 1) \tag{6.2}$$

I used log transformation β_{ij} because some respondents’ answer were far away from the correct answer, which affects their standard deviations. Since some respondents got a correct answer and their $\alpha_{ij} = 0$, I added 1 to α_{ij} before obtaining β_{ij} .

Figure 6.3 shows distributions of β_{ij} and its standard deviation (vertical dotted line) in terms of stock ownership. Based on the location of β_{ij} and standard

deviation, I score each respondent's economic knowledge with γ_{ij} . The highest value of γ_{ij} is 5 when β_{ij} is within one standard deviation and the lowest value of γ_{ij} is 1 when β_{ij} is larger than five standard deviations.

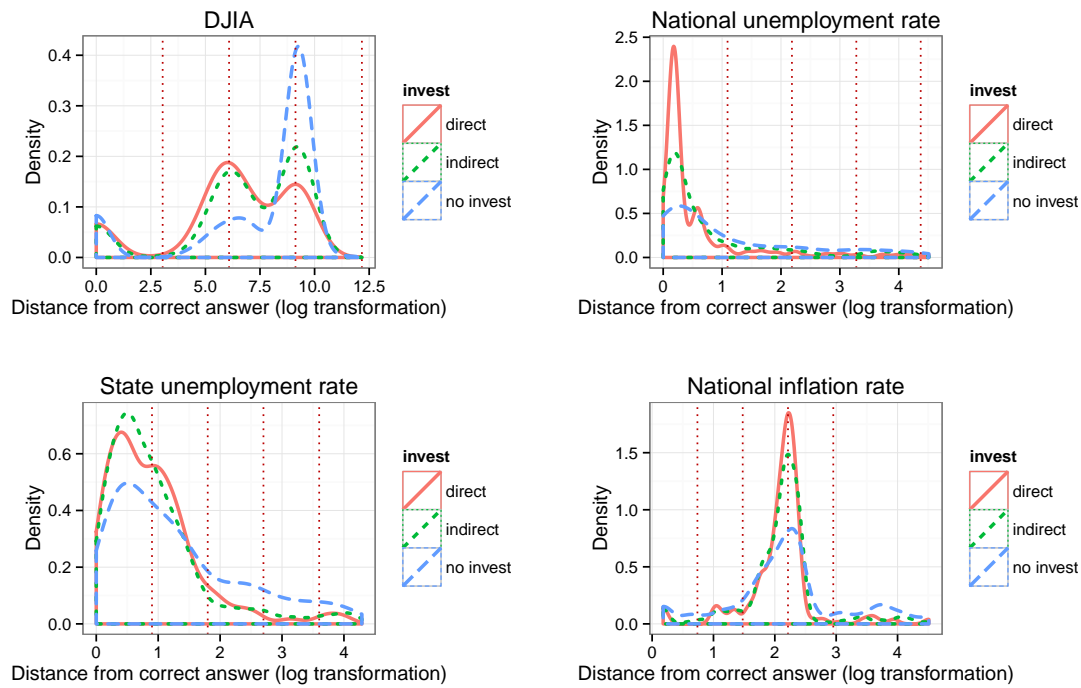


Figure 6.3: Distribution of answer: Distance from correct answer (log transformation)

Dependent Variable

Figure 6.3 also shows that the difficulties of each economic knowledge are different. The two unemployment rate questions are easier than questions about national inflation and DJIA in October 2010. It is also possible that effects of

stock ownership are different depending on types of economic knowledge. That is, those who own stocks have motivation to check DJIA so they could answer related questions correctly but they care less about state unemployment rate. After taking into account these possibilities, I examine the two hypotheses above by two procedures. First, I use each economic knowledge score as the dependent variable and analyze the effect of stock ownership on each knowledge by ordered logit model.

As the second analysis, I analyze the comprehensive knowledge levels about economy using four economic knowledge questions. In previous literature of political knowledge, they use multiple questions and calculate the total levels of political knowledge by calculating the ratio of correct answer such as

$$Political\ Knowledge = \frac{Number\ of\ Correct\ Answer}{Number\ of\ Total\ Answer} \quad (6.3)$$

The assumption of this measurement is that the difficulty of each question is same because it weighs all questions equally. On the other hand, I am not sure whether it is plausible to treat all four economic questions equally in order to measure the comprehensive knowledge levels about the economy. Also, my economic knowledge questions are not multiple choice but I scored them with five-point scales. Taking these issues into consideration, I use two total knowledge scores: (1) the total score of four economic knowledge questions divided by the perfect score, followed by Equation 6.3; and (2) the total score measured by *partial credit model* (PCM).⁸

⁸To implement the statistical analysis, I use *eRm* package in R (Mair, Hatzinger and Maier, 2012).

Independent Variables

Stock Ownership: Those who own stocks directly (Direct) or own stocks as mutual funds and/or retirement plans such as 401(k) (Indirect). Dummy Variable.

The most important variables in this chapter is *stock ownership* variable. Unlike other survey data such as American National Election Studies, I asked respondents in CCES 2010 regarding stock ownership in detail – whether they own stocks directly or as mutual funds/retirement plans because I argue that the effect of stock ownership between two groups are different. I also include the following as control variables in the model.

Party Identification: Democrats or Republicans. A dummy for Independents is a baseline.

Gender: Gender =1 if respondent is female.

Race: Black, Hispanic, or Other (White is a baseline).

Family Income: Family income. There are fourteen categories.

Education: Respondent's educational background. There are six categories.

6.4 Results

6.4.1 Analysis 1

The models in Table 6.1 examine the hypotheses with each economic knowledge score as the dependent variable and stock ownership variables and control variables as independent variables. The table on the top supports Hypothesis 1 and 2:

direct stock owners knows more about the condition of stock market than indirect stock owners and non investors with 0.01 levels of significance, even after controlling for party identification and socio-economic background. The odds ratio for the direct stock ownership variable is 1.69, which means knowledge about Dow Jones among direct stock owners is 69 percent higher than those who do not have any stocks in the market.

Interestingly, I cannot find this stockowner effect on economic knowledge regarding either national and state unemployment rates. However, there is the effect on national inflation knowledge with 0.1 levels of significance and its odds ratio is 1.40, which means knowledge about national inflation rate among direct stock owners is 40 percent higher than those who do not invest any in the market. It is possible that those who invest their money into the stock market less care about unemployment rate but *do* care about inflation rate. This result makes sense in terms of general asset management. When people expect that the inflation rate would be increase in the future, they withdraw their money from bank accounts then put their money into the stock market. That is why direct stock owners check national inflation rate more often than non-investors, and asset management behavior would increase the knowledge about national inflation rate among direct stock owners.

Besides stock owner effect, *education* has a positive effect on all economic knowledge. One unit change in *education* increases 25 percent of knowledge about the Dow Jones. The effect on national unemployment and inflation is relatively smaller than state unemployment rate, but still they are statistically significant at the 0.01 percent levels.

The effect of family income is completely opposite of the effect of direct stock ownership. Family income matters on national and state unemployment rate, but there is no effect on Dow Jones and national inflation rate. In terms of partisan effect on economic knowledge, previous literature says that Democrats pay more attention to unemployment rates while Republicans are concerned about the inflation rate.

The results in Table 6.1 include mixed results that Democrats know about the Dow Jones and state unemployment compared to independents, but there is no difference in national unemployment rate and inflation rate. A possibility of this partisan effect on unemployment rates among Democrats is that there is no partisan difference in terms of national unemployment rate because people had many chances to hear the national unemployment rate via media during the campaign period in 2010, regardless of their partisanship. However, as previous study says, unemployment rate is very important among Democrats, so they paid much more attention to not only national but also state rates than Independents. Finally, African Americans know less about the Dow Jones and national unemployment rate than Whites, but there is no racial difference in state unemployment and national inflation rate.

In sum, I find that there is a stock ownership effect on knowledge about Dow Jones and inflation rate, but there is no effect on national and state unemployment rate. I also find that economic knowledge among those who invest their money in the stock market as mutual funds or pension plans are the same as those who do not have any investment in the market.

Table 6.1: The effect of stock ownership on each economic knowledge

Dependent Variable	National		State	
	DJIA	Unemployment	Unemployment	Inflation
Direct	1.686** (0.190)	1.204 (0.200)	0.747 (0.195)	1.395 (0.183)
Indirect	1.001 (0.160)	0.982 (0.174)	1.206 (0.164)	1.223 (0.167)
Democrat	1.412* (0.166)	0.984 (0.180)	1.568** (0.172)	0.788 (0.160)
Republican	1.241 (0.175)	0.913 (0.183)	1.125 (0.178)	0.788 (0.163)
Age	1.010* (0.004)	1.009 (0.005)	1.027*** (0.005)	0.996 (0.005)
Female	0.392*** (0.136)	0.556*** (0.148)	0.605*** (0.136)	0.832 (0.134)
Black	0.458*** (0.216)	0.549** (0.221)	0.692 (0.229)	1.007 (0.219)
Hispanic	0.517* (0.281)	0.780 (0.292)	0.683 (0.282)	1.385 (0.311)
Other	0.713 (0.268)	0.641 (0.271)	1.037 (0.258)	1.539 (0.255)
Family Income	1.031 (0.020)	1.047* (0.023)	1.103*** (0.021)	0.999 (0.020)
Education	1.246*** (0.049)	1.148* (0.055)	1.329*** (0.052)	1.137** (0.049)
AIC	2259.917	1861.551	2093.956	2246.890
BIC	2330.139	1932.281	2164.178	2317.621
Log Likelihood	-1114.958	-915.775	-1031.978	-1108.445
Deviance	2229.917	1831.551	2063.956	2216.890
Num. obs.	798	825	798	825

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

6.4.2 Analysis 2

Table 6.2 shows the results of analysis regarding the effects of stock ownership on comprehensive economic knowledge by OLS regression models. Model 1 and Model 2 are the results with dependent variables that estimated via *PCM* model and the ratio of correct answer in Equation 6.3, respectively.

Neither direct nor indirect stock ownership has an effect on comprehensive economic knowledge. As I find in Analysis 1, the effect of stock ownership on economic knowledge depends on the knowledge question (Dow Jones and inflation rate). Therefore, it is possible that these effects were canceled out when I calculated the comprehensive effects with four questions. In control variables, *Female*, *Black*, and *Education* are statistically significant at the 5 percent levels.

Table 6.2: The effect of stock ownership on comprehensive economic knowledge

	Model 1	Model 2
	PCM	Ratio
(Intercept)	-0.640*	0.495***
	(0.299)	(0.046)
Direct	0.120	0.020
	(0.146)	(0.023)
Indirect	0.041	0.008
	(0.132)	(0.021)
Democrat	-0.076	-0.014
	(0.130)	(0.020)
Republican	-0.111	-0.018
	(0.131)	(0.020)
Age	0.005	0.001
	(0.004)	(0.001)
Female	-0.365***	-0.065***
	(0.107)	(0.017)
Black	-0.357*	-0.060*
	(0.169)	(0.026)
Hispanic	0.015	-0.005
	(0.224)	(0.035)
Other	-0.077	-0.016
	(0.207)	(0.032)
Family Income	0.029	0.005
	(0.017)	(0.003)
Education	0.114**	0.019**
	(0.039)	(0.006)
R ²	0.065	0.079
Adj. R ²	0.053	0.066
Num. obs.	825	825

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

6.5 Discussion

In this chapter, I examine the effect of stock ownership on economic knowledge and find that direct stock ownership affects knowledge about Dow Jones and national inflation rate, but there is no difference between stock owners and non stock owners in terms of national and state unemployment rates. Additionally, there is no stock owner effect on economic knowledge if people only own stocks as mutual funds or retirement plans. On the other hand, when I analyze the effect on the comprehensive knowledge, the effect of stock ownership disappears.

I argue that this conditional effect of stock ownership stems from their *motivation*. Obviously those who own stocks have motivation to check stock market via TV or the Internet. The inflation rate is also important in order to manage their assets value in the future. On the other hand, if people own stocks only as mutual funds or pension plans, their motivation toward asset management is limited. Some might have their money in the market because their company provides 401(k) as a retirement plan so they do not have the motivation to check the market condition.

There are some limitations in this study that need to be improved in the future. First, I did not use panel data, therefore I could not control external factors such as economic conditions. In 2010, for example, it had been two years since the financial crisis happened but the employment rate was still higher than before the crisis. Therefore, candidates from both parties quoted economic indicators, especially national unemployment rate, during the election. However, it is possible that when the economic condition is better, not a majority but a small portion of people pay attention to the unemployment rate. It is also possible that people's attention is

different in election years and non-election years.

The second issue is regarding measurement. In CCES 2010, respondents had to answer directly instead of answering multiple choice questions. Hence I did not use common measurement procedures that many political knowledge literature uses. Instead, I grade answers with a five point scale. In order to analyze the total knowledge, I use two different measurement methods but there is no difference between two results. It is important to apply these methods for other knowledge questions to examine better measurement methods in the future, but it is beyond of the scope in this chapter.

Appendix

Appendix 1

1.1 The *New York Times* 1981 - 2012

Table 1.1: Top 5 topics in the *New York Times*: 1981-1985

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1981	busi	reagan	interest	billion	analyst
	american	presid	rate	compani	time
	support	econom	price	offer	trade
	investor	tax	high	share	hous
	get	financ	drop	mobil	secretari
1982	interest	money	bank	reagan	million
	industri	kaufman	secur	presid	billion
	rate	surg	chase	compani	close
	declin	investor	govern	hous	exchang
	high	rates	price	econom	share
1983	tax	bank	compani	firm	money
	continu	averag	home	analyst	industri
	rate	govern	invest	company	dollar
	high	interest	time	volcker	price
	report	take	increa	larg	rate
1984	interest	firm	compani	industri	bank
	rate	price	reagan	busi	public
	economi	work	million	analyst	feder
	presid	law	turn	world	state
	econom	administr	peopl	financ	share
1985	company	close	compani	analyst	time
	state	trade	share	firm	presid
	hous	south	industri	invest	regan
	govern	valu	chief	billion	regan
	financ	high	deal	interest	capit

Table 1.2: Top 5 topics in the *New York Times*: 1986-1990

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1986	compani million time profit busi	price industri insid rate interest	firm corpor financ boeski econom	trade invest secur major exchang	report properti rise govern build
1987	financ bank money economi major	firm peopl invest futur index	presid time reagan crash hous	deficit budget congress billion plung	trade dollar price industri averag
1988	firm compani invest billion million	interest tax rate time increa	octob befor hous american collap	financ crash deficit state govern	trade exchang industri index price
1989	deal compani time japan feder	firm invest bank million billion	trade price industri index averag	financ investor chang figur lower	tax rate crash govern high
1990	japan rate price industri interest	feder tax peopl inc take	firm american investor corpor shearson	bank execut nation busi hous	drexel financ bond compani milken

Table 1.3: Top 5 topics in the *New York Times*: 1991-1995

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1991	financ busi million end price	industri salomon averag close compani	rate bank execut time nation	investor econom work money secur	firm state invest analyst bond
1992	compani industri busi govern record	firm million execut money averag	state price rate financ corpor	clinton japan work perot share	econom invest bank economi american
1993	financ corpor trade billion govern	compani million econom capit high	busi hous time clinton tax	firm presid state work lawyer	offici american invest bond earn
1994	bond rate interest feder investor	financ million money buy work	trade price govern trader increa	firm billion analyst state bank	invest fund compani industri averag
1995	mexico govern interest high fund	compani price industri averag invest	bond rate feder help began	bank rate trade close japan	financ investor share plan money

Table 1.4: Top 5 topics in the *New York Times*: 1996-2000

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1996	financ	rate	fund	investor	close
	time	good	invest	share	recent
	million	bond	industri	billion	price
	news	secur	compani	profit	high
	sell	econom	averag	show	use
1997	industri	financ	compani	investor	state
	rate	econom	trade	american	billion
	averag	hong	end	invest	time
	price	world	firm	money	tax
	interest	currenc	analyst	bank	million
1998	american	industri	financ	invest	compani
	time	investor	bank	secur	firm
	peopl	averag	economi	govern	fund
	recent	price	world	money	trade
	analyst	close	rate	state	big
1999	industri	invest	compani	time	financ
	rate	secur	trade	way	bank
	price	govern	internet	state	econom
	averag	social	billion	still	world
	interest	plan	investor	unit	nation
2000	economi	investor	financ	invest	analyst
	rate	industri	million	secur	govern
	econom	compani	billion	social	execut
	price	averag	firm	bush	ago
	rai	time	good	money	get

Table 1.5: Top 5 topics in the *New York Times*: 2001-2005

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2001	financ	trade	invest	rate	work
	compani	firm	bush	economi	job
	industri	world	presid	cut	american
	investor	state	tax	econom	school
	analyst	manhattan	peopl	consum	way
2002	industri	compani	invest	corpor	econom
	time	enron	secur	bush	economi
	fall	firm	tax	account	busi
	averag	financ	state	presid	american
	trade	investor	money	democrat	nation
2003	compani	bush	tax	industri	execut
	corpor	million	economi	rate	firm
	investor	financ	state	offici	billion
	analyst	time	cut	late	exchang
	plan	world	invest	trade	secur
2004	presid	compani	analyst	job	million
	time	invest	bush	rate	firm
	manag	bank	tax	econom	financ
	trade	fund	billion	feder	execut
	come	photo	economi	price	public
2005	compani	investor	analyst	million	invest
	financ	economi	execut	state	secur
	industri	rate	firm	billion	social
	averag	econom	report	presid	bush
	nasdaq	recent	near	time	money

Table 1.6: Top 5 topics in the *New York Times*: 2006-2010

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2006	money	investor	time	financ	goldman
	corpor	econom	execut	fund	firm
	home	billion	million	capit	invest
	campaign	compani	industri	trade	state
	presid	profit	chief	govern	big
2007	rate	financ	bank	time	compani
	tax	investor	fund	work	busi
	analyst	industri	invest	help	million
	cut	averag	trade	rai	firm
	feder	china	hedg	group	execut
2008	crisi	financ	home	industri	state
	plan	bank	fund	investor	peopl
	econom	billion	work	price	economi
	bailout	firm	nation	averag	time
	hous	govern	years	near	job
2009	peopl	financ	school	time	bank
	job	money	famili	billion	obama
	economi	firm	world	state	execut
	get	invest	years	industri	govern
	work	bonus	life	million	econom
2010	invest	analyst	investor	compani	econom
	secur	million	economi	financ	state
	social	report	industri	time	american
	bush	execut	rate	public	recent
	money	former	averag	billion	help

Table 1.7: Top 5 topics in the *New York Times*: 2011-2012

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2011	financ	obama	work	state	occupi
	bank	support	member	govern	protest
	compani	democrat	american	debt	movement
	investor	republican	fund	econom	park
	time	polit	call	unit	polic
2012	work	occupi	financ	compani	obama
	invest	protest	bank	investor	romney
	former	peopl	trade	money	republican
	school	movement	firm	million	campaign
	member	polic	industri	execut	presid

1.2 *USA Today* 1991 - 2012

Table 1.8: Top 5 topics in the *USA Today*: 1991-1995

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1991	interest	bank	million	industri	averag
	record	went	rate	busi	poli
	econom	bond	state	credit	billion
	cut	send	analyst	index	industri
	investor	feder	close	way	high
1992	bill	firm	work	state	clinton
	money	council	tax	offici	econom
	home	propo	washington	million	gore
	campaign	sen	law	school	invest
	feder	manag	board	counti	candid
1993	clinton	time	peopl	clinton	bomb
	million	offici	state	investor	busi
	presid	state	cut	averag	econom
	camp	bill	budget	still	member
	foley	pay	befor	good	shot
1994	counti	hall	plan	averag	rate
	state	persh	time	industri	close
	clinton	legion	econom	interest	feder
	million	american	jail	fell	good
	past	committ	white	slide	bond
1995	nation	million	get	averag	state
	peopl	billion	bbs	investor	offici
	interest	compani	system	world	school
	near	feder	servic	invest	poli
	bond	right	board	industri	close

Table 1.9: Top 5 topics in the *USA Today*: 1996-2000

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
1996	news	tax	industri	averag	investor
	fear	state	clinton	million	record
	china	rose	cut	industri	bond
	econom	govern	rate	drop	close
	offici	interest	dole	end	main
1997	close	averag	financ	help	drop
	gain	rate	japan	money	plung
	greenspan	industri	million	oct	fed
	industri	investor	clinton	global	compani
	bank	record	econom	nation	currenc
1998	averag	invest	industri	russia	money
	industri	clinton	end	econom	gain
	drop	tax	peopl	billion	asia
	investor	secur	bank	put	point
	rate	social	still	price	nation
1999	invest	compani	industri	econom	rate
	social	gain	investor	bank	record
	tax	analyst	american	public	time
	money	still	chairman	low	averag
	secur	earn	congress	million	nasdaq
2000	economi	industri	money	secur	compani
	price	averag	financ	social	busi
	gore	nasdaq	million	invest	american
	close	econom	former	bush	internet
	campaign	nation	billion	tax	work

Table 1.10: Top 5 topics in the *USA Today*: 2001-2005

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2001	million	secur	investor	cut	bush
	economi	invest	financ	industri	nation
	presid	social	trade	averag	analyst
	billion	retir	econom	rate	far
	save	worker	get	interest	need
2002	secur	corpor	investor	money	confid
	social	bush	industri	time	retir
	tax	presid	compani	analyst	econom
	enron	democrat	fund	worldcom	averag
	account	congress	execut	call	loss
2003	economi	invest	compani	tax	war
	corpor	fund	pay	state	industri
	rate	firm	help	bush	pension
	enough	investor	hous	econom	financ
	news	billion	recent	billion	social
2004	price	social	home	economi	bush
	gain	fund	rise	job	invest
	money	million	pension	interest	secur
	past	campaign	analyst	growth	worker
	ceo	near	pay	investor	industri
2005	industri	million	former	polit	invest
	economi	billion	nation	compani	secur
	averag	financ	investor	busi	social
	nasdaq	presid	peopl	boom	bush
	price	fell	work	internet	gore

Table 1.11: Top 5 topics in the *USA Today*: 2006-2010

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2006	invest	compani	busi	record	industri
	fed	financ	close	rate	econom
	befor	million	governor	knight	nation
	pay	news	investor	averag	billion
	time	board	bush	peopl	price
2007	hous	compani	financ	invest	averag
	time	investor	republican	fund	peopl
	price	come	univ	buy	industri
	financ	global	call	drop	money
	money	get	democrat	best	credit
2008	bailout	bank	crisi	financ	mccain
	invest	industri	main	nation	obama
	economi	averag	credit	peopl	hous
	govern	bear	time	money	financ
	congress	drop	secur	billion	econom
2009	financ	obama	bank	money	financ
	work	big	econom	firm	time
	american	plan	industri	billion	compani
	busi	presid	taxpay	execut	get
	bailout	congress	averag	govern	job
2010	nation	industri	social	economi	million
	polit	averag	invest	investor	money
	price	econom	secur	high	look
	way	nasdaq	bush	says	work
	end	billion	tax	put	get

Table 1.12: Top 5 topics in the *USA Today*: 2011-2012

Year	Topic 1	Topic 2	Topic 3	Topic 4	Topic 5
2011	financ	occupi	economi	debt	movement
	busi	protest	nation	big	industri
	econom	park	peopl	washington	obama
	get	support	money	work	back
	cut	polic	time	averag	govern
2012	investor	presid	romney	bank	occupi
	show	averag	job	ralli	obama
	american	financ	care	econom	movement
	consum	health	money	call	protest
	elect	report	peopl	fall	close

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