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Examining the Effects of Economic Knowledge on Political Judgments

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Abstract

Because of its position as a valence issue, perceptions of the economy are strongly tied to opinions on various issues, presidential and congressional assessments, and even vote choice. Among the chief assumptions made by many researchers in the area is that the way our perceptions are applied to many of these judgments is largely due to our possession or lack of knowledge. Despite the prevalence of these claims, very little research has actually attempted to test whether or not such a relationship exists, and if it does, what it means for how we form political judgments while using our perceptions of economic affairs as a barometer. Existing literature on political knowledge has shown that the public is generally uninformed on many issues and that this can lead to individuals holding opinions on issues that are different than they would hold were they fully informed. If we assume that the same is true for economic-specific issues, then we can also assume that people are holding opinions on economic affairs that are different than they would were they fully informed, and this may even be leading to other political judgments being distorted if the economy is used a decision-making tool.

Using a nationally representative survey, I seek to uncover what people know about the economy and what factors influence the amount of knowledge held by which individuals. Using this, I then test how economic knowledge impacts our ability to form opinions on a variety of economic issues, showing that opinions would be different in a hypothetically fully informed world. I also show that, despite the claims of much of the previous research into presidential approval and economic perceptions, knowledge appears to have little to no impact on how people actually apply their perceptions to the feelings of the president. Additionally, using a unique survey experiment, I test how knowledge affects how people receive and respond to different types of information. The findings show that technical information about economic

issues has a stronger effect than news reports in changing opinions, especially among low knowledge individuals. The implications of such findings in a world where news consumption has largely moved to social media platforms are discussed.

Chapter 1: Introduction

When President Barack Obama took office in January 2009, his first course of action was clear - he had to address the worst economic crisis since the Great Depression. Among the most important first steps for the new administration according to Timothy Geithner, President Obama's newly appointed Secretary of the Treasury, was to restore confidence, as "[e]very financial crisis is a crisis of confidence… [f]inancial systems, after all, are built on belief" (Geithner 2014). That meant taking actions to signal to the American people that things were not as bad as they thought, or to at least send some signal that things wouldn't be getting much worse. Among the tools utilized by the Obama Administration to achieve this was the Troubled Asset Relief Program (TARP). Started under President George W. Bush, TARP bought toxic assets from struggling financial institutions to return them to stability. Secretary Geithner would go on to argue that this was a simple first step for the government, stating that "[t]he government can stand behind faltering firms, removing the incentives that turn fear into panic" (2014). Thus, the goal in buying up these troubled assets was to prevent a further run on the financial system, in which people withdrew even more money and consumed even less, sending the entire system spiraling deeper.

While TARP and other actions taken by the Obama administration may have served as an indicator to investors that the government would ensure the stability of the financial markets, the public did not seem to feel the same. Polls conducted in the lead up to the 2010 midterm elections consistently found a generally negative reaction to the economic actions taken by the federal government (Blendon and Benson 2010; Jacobson 2011). By May 2010, only 22% of the public believed the United States was out of recession, with 76% believing that the recession was still occurring, and 36% believing that it would continue for another 2 years (Blendon and

Benson 2010; NBC/WSJ 2010a). One NBC News/Wall Street Journal Poll conducted in the late summer of 2010 found that just 18% of respondents believed that the bank loans meant to stabilize large financial institutions had helped the economy, while 45% believed they had actually hurt the economy (NBC/WSJ 2010b; Jacobson 2011). These beliefs were in clear opposition to the beliefs of many economists, who generally agreed that the actions taken by the Obama administration had prevented an even deeper plunge (Skocpol and Jacobson 2012). This translated into poor prospects for the President's party heading into the elections, as "although TARP had been initiated by the Bush administration, by the summer of 2010, more people believed it was Obama's program than had remembered it was Bush's idea" (Jacobson 2011).

So, what led to this disconnect between what economists believed to be a real (albeit, a slow) recovery, and the public perception that the economy was not even out of the recession yet or that the policies enacted or continued under the Obama administration had hurt more than they had helped? In part, it appears this disconnect stemmed from the fact that many in the public were not aware of the broader implications of these policies. Instead of focusing on why stabilizing the banks was a necessary first step to stopping an even deeper recession, many may have instead focused on the easier and more accessible measures of the economy that they understood. Many continued to worry about how a prolonged economic crisis may affect their own financial situation. Unemployment continued to rise despite the best efforts of the Obama administration, from 8.2% when the stimulus bill was passed to 9.8% in December of 2010, leading to the President's approval ratings falling "in lock step with the rise in unemployment during his first year in office" (Jacobson 2010). The result of this continued economic anxiety within the American people and the perceived failure of the Democratic leadership to adequately address the issues at hand was a crushing defeat for the party in the midterm elections (Skocpol

and Jacobs 2012). On the eve of the election, Gallup showed President Obama with a 44% approval rating, and the Democrats would go on to lose 63 seats in the House of Representatives.

Over the next two years, the economy continued its slow improvement. From November 2010 to November 2011, unemployment fell from 9.8% to 8.6%, and from November 2011 to November 2012 from 8.6% to 7.7% (U.S. Bureau of Labor Statistics). Over the same period, the stock market and economic output both continued upward climbs. Despite these gains, public perception of economic conditions in the lead up to the 2012 presidential election remained negative. These negative feelings were easily observable in the 2012 American National Election Study. According to the study, 36.5% of Americans believed that unemployment levels had gotten worse in the preceding year, while just 27.4% correctly recognized that they had gone down. The effects of these misperceptions may have led to the negative response seen on several of the more subjective questions asked about the economy. For instance, 52.8% disapproved of the way Barack Obama had handled the economy. Sixty-six percent stated that they believed the current state of the economy was either bad or very bad, with 35.2% stating that the economy had gotten worse overall over the past year, compared to just 29.2% that stated that it had improved.

Once again, we see a situation in which the perceptions of many Americans did not seem to fit economic reality, especially surrounding unemployment. While the unemployment numbers in November 2012 were certainly higher than normal, they were empirically lower than they had been the previous year. However, the public did not seem to recognize this. Obviously, much of this confusion can be explained as the result of the deep partisan battle that surrounded the 2012 election. Both Barack Obama and his Republican challenger Mitt Romney made the economy the central focus of their campaigns, and thus the economy also became one of the

central focuses of the horse-race coverage of the campaign (Oh 2016). For Obama, the message centered on continuing the recovery that had already started, while for Romney, the message centered on the missteps of the Obama administration and why the actions taken by the administration had slowed down recovery. This ultimately led to 60% of respondents in a CNN Exit Poll stating that the economy was the most important issue they considered when going to the polls that day (Abdullah and Van Kanel 2012).

In both the 2010 midterms and the 2012 Presidential elections, the economy likely played a large part in the decision-making process of the voters. This sort of retrospective voting is, in many ways, an ideal example of the voters assessing government performance and making judgments accordingly, as was proposed by the likes of V.O. Key (1966). Voters look to what their leaders have achieved and assess their performance when deciding how the nation should move forward. However, we also see a situation in both cases in which the voters seemed to be operating on only partial, if any, real economic information. In 2010, this was evident by the lack of knowledge about not just the observable successes of programs such as TARP, but also through the lack of knowledge of who even started the program or that the recession had technically ended by then (Jacobson 2011). In 2012, this was most obviously observable in the fact that more Americans believed that unemployment had gotten worse than believed it had gotten better or stayed the same, and again by a large number of respondents incorrectly believing that the United States economy was still in recession (ANES 2012).

This raises many questions about how voters utilize economic perceptions when forming their political judgments. Certainly, many would hope that political judgments are made based on reality, but as we can see this does not appear to be happening all the time. How can the voters be basing their judgments on the real economy if they aren't even aware of what is going

on? Many may assume that people look to their own well-being when making these decisions, a metric that is very understandable by the average voter and affects them every day. However, the pocketbook theory enjoys much less support among scholars than the sociotropic theory- the idea that voters look to the condition of the national economy when making their decisions (Lewis-Beck and Stegmaier 2000; Lewis-Beck and Nadeau 2011). Additionally, while it is obvious that many people seem to be unaware of real economic conditions when making their political judgments, real economic conditions themselves still serve as a strong predictor of electoral outcomes, even months in advance of the contest itself[1].

How can it be that people do not know what is going on in the real-world economy, and yet real-world economic change still stands as such a strong predictor of electoral outcomes? More questions arise when we consider how people develop their perceptions of the economy in the first place, or when considering how decisions are made regarding various other economic issues. Why is it that some people will hold the belief that the economy has gotten worse when the actual facts do not support this belief? Underlying the decisions made by people regarding the economy, I argue, is basic knowledge of the economy. Economic knowledge, I argue, is one of the primary drivers of how Americans shape their views on many issues, and the disparity of knowledge across different groups in the country creates a situation in which some are better equipped to accurately express their attitudes than are others. The purpose of this dissertation is to begin to untangle the nature of economic knowledge and the role it plays in American politics. Broadly, I will tackle three interrelated questions; what Americans know about the economy,

[1] See Jones (2008) for an overview of how the economy is utilized as a variable in predictive models, as well as Campbell (2016) for a recent example.

how does this knowledge affect how they make political judgments, and how does this knowledge affect how they react when presented with new economic information?

My Argument in Brief

The breadth of research into economic voting and how our perceptions affect our opinions is vast. However, while we expect people to utilize economic perceptions when making political decisions, little work has been done to attempt and unravel exactly what Americans even know about the economy and how this affects the decision-making process that we assume all people go through when forming evaluations. Certainly, as the example presented above shows, many Americans seem to be making decisions based upon very little or even wrong information, a claim that is of no surprise to those who study political knowledge, but one that has yet to really be applied to how we utilize our economic perceptions.

The basic argument of this dissertation is that what we know about the economy underlies how we feel on various subjects, both economic and political. While we should expect this knowledge to affect how we feel about the economy, I also argue that our economic knowledge directly affects how we shape our political judgments. Economic knowledge directly conditions how, when, and which economic perceptions we utilize when forming political opinions. This creates a serious disparity across individuals of differing levels of knowledge in the quality of political decisions and opinions we are holding. Because of the complex and specialized of the economy, a significant rift exists between those with the most economic knowledge and those with the least, causing people on the lower end of the spectrum to inaccurately perceive the current state of the economy and to hold opinions towards their leaders that they otherwise would not. Like general political knowledge, the pattern of possession of

economic knowledge falls directly along socioeconomic lines, but to a more extreme degree. In addition to affecting how we form opinions; economic knowledge may also directly affect how we absorb new information. Specifically, the types of information received and accepted by high knowledge and low knowledge individuals may significantly differ, with low knowledge individuals being more perceptible to responding to news stories that are easier to understand. The consequences of this disparity can be devastating. In addition to the problems we may have with a democracy that is not accurately reflecting what the people may want were they more informed, real economic consequences are also a possibility. Simply the perception that the future economy may not be as strong as the current one can cause unnecessary precautionary saving, reducing consumption and subsequently, reducing actual economic growth. The implications of these findings are significant both for how we understand political phenomena, as well as for policymakers who must consider how to accurately and efficiently transfer economic information to the public.

Outline of the Dissertation

To untangle the relationship between economic knowledge and public opinion, this dissertation will proceed in the following manner. In the next chapter, I begin to introduce some of the key concepts and ideas underlying the basis of this study. This includes an introduction to the literature on economic voting and decision-making and a discussion of the two main areas over which researchers have gone back and for: the debate about the usage of pocketbook versus sociotropic (or national) economic concerns, and the debate about the usage of prospective versus retrospective economic concerns. From an overview of this literature, it is clear that a significant piece of the puzzle remains unrevealed despite the vast amounts of research that exist

in this area. This gap in the literature becomes even more apparent when we begin to consider research from other areas, especially research on political knowledge and how it, or the lack of it, significantly alters the views that people hold on many issues. As will be shown, Americans are typically poorly informed on general political issues, and even more poorly informed when it comes to policy-specific facts. Researchers have shown that these deficiencies severely dampen the ability of voters to act as they would were they fully informed, and while mental shortcuts do help voters overcome some of these shortcomings, even the ability to use them correctly has been shown to favor the more knowledgeable. Additionally, research from the field of economics will be considered to show the implications of a society that knows little about what is going on in the economic world. Following this, a theory of how economic knowledge affects public opinion will be presented and several of the hypotheses that are tested in this dissertation are offered.

Chapter Three begins with a discussion of the development of a nationally representative survey meant to measure economic knowledge. The survey was based in part on the suggestions of how to measure general political knowledge offered by Delli Carpini and Keeter (1996). These questions also informed the economic knowledge questions that were included. As is the case with general political knowledge, several questions are asked regarding office recognition, this time of positions that have significant influence on the economy, as well as several questions directly asking about current economic conditions. These include questions on the current unemployment rate, the rate of growth, and inflation. Finally, the economic knowledge questions conclude with a series of questions that measure definitional knowledge, specifically on those issues that may be included on a standard macroeconomic test provided to high school students or college underclassmen.

Once the survey is explained, I begin to analyze the results of the survey, seeing what people knew and what factors were predictive of the possession of knowledge. This largely focuses on demographic determinants, as several other studies have shown the possession of general political knowledge to be largely determined by the resources of the person (Delli Carpini and Keeter 1996). As stated before, the complex nature of economic information may mean ever greater divisions between the informed and uninformed on this issue, meaning that factors such as formal education may be even more significant in determining knowledge levels and are explored. Additionally, I test for a relationship between general political knowledge and economic knowledge. While we may assume that most of the same predictors of general political knowledge are also related to economic knowledge, we must dissect the strength of the association given the previous research indicating that even those with high levels of general knowledge still lack policy-specific knowledge (Barbaras and Jerit 2008). The implications of the divides in economic knowledge are discussed, as the existence of separate knowledge classes of citizens presents a challenge for democracy.

In Chapter Four, I look beyond simply the fact that a divide exists in the public and begin to explore the implications of such a finding. Using the knowledge scale developed in the previous chapter, a series of models are created that test how economic knowledge affects stated opinion on several economic issues. Several existing studies have already shown that opinions and vote choices would differ were people fully informed both generally (Althaus 1998; Bartels 1996) and on policy-specific facts (Gilens 2001). Because of this, we can assume that the same is true for opinions toward several economic issues, as well as toward perceptions of the state of the economy. Using methods like those utilized by previous authors, I test how opinions would differ toward several economic issues, such as issues of trade and equal pay laws, were the

public fully informed on issues of the economy. The results from these estimations show that, as is expected, knowledge has a significant influence on whether or not a respondent agrees with a certain statement or opinion. After simulating fully informed opinion, I also find that, unsurprisingly, the public is largely out of line with where they would be on issues were they fully informed. On several issues tested, I even find that the shift from average levels of knowledge to full knowledge may be enough to 'flip' the likelihood of supporting or not supporting a statement or opinion completely. In other words, I see that a change from being unlikely to support something to being likely to support something, or vice-versa, is possible.

I will then look beyond what our knowledge means about our perceptions of issues and the state of the economy and will turn my focus to how it affects our ability to judge our political leaders. Specifically, Chapter Five will focus on the relationship between economic knowledge and presidential approval. There is little doubt that our economic perceptions are impacted in some way by how we feel about the economy. While disagreements have arisen in the literature as to the precise nature of the perceptions used when judging the president, one common piece that has flowed through each of these studies is the idea that the sophistication of the voter is what determines which evaluations are used. Often, however, knowledge is mentioned in passing without any direct attempt to dissect the knowledge that supposedly underlies the effects that are being argued. Using the measure of economic knowledge developed in Chapter Three, I directly test how economic knowledge affects how people feel about the president, and how they use their perceptions when doing so. This is different from existing studies in this area as it uses a unique measure of domain-specific knowledge rather than relying on measures of general political knowledge or just education. Several models are developed that include economic perceptions, such as past and future economic growth or unemployment, to test which measures

remain significant after knowledge is controlled for, as well as several interaction effects that show how the reliance on some of these perceptions shift depending on how knowledgeable the person using them is. The results of these models are then considered in reference to the existing major studies on presidential approval and economic perceptions. For instance, following the expectations of the 'peasants and bankers' argument of Macken, Erikson, and Stimson (1992), we might expect to see that the effect of retrospective evaluations[2] gets weaker as the level of economic knowledge grows, while we might see that the effect of prospective variables gets stronger as knowledge increases. These possibilities and their implications on the existing research are explored. Additional tests consider how knowledge affects the tendency to rely on economic perceptions at all, as well as the reward/punishment paradigm.

Chapter Six then shifts focus toward another consequence of the economic knowledge gap, that of how information is received. While the economy is a complex issue and some struggle to grasp every aspect of relevant policy, it is at the same time a valence issue that every citizen has to deal with every day. Because of this, we may wonder how our interactions with different types of economic information vary based on our understanding of the issue. More sophisticated voters are not only more likely to receive bits of relevant information in the first place, they are also more likely to be able to effectively decide whether to accept the information and absorb it into their decision-making process (Zaller 1992). Because of this, I expect to find that more economically knowledgeable citizens rely on different and more technical bits of information than do less knowledgeable citizens. Specifically, economically knowledgeable

[2] The retrospective and prospective variables are dummy variables representing whether the respondent stated the economy was/will be "Better" or "Worse" since last year/over the next year, following standard procedure in the literature. These interactions test the size of these effects relative to the person's level of knowledge on the economy.

citizens likely rely on more technical information, such as those received from governmental and research organizations or through the media[3], while less knowledgeable voters are likely to rely upon pieces of information picked up through their everyday lives or even through their interactions on social media, such as reports from popular news sources. Understanding how people respond to this information provides valuable insight given the nature of the information environment today, as people are shifting news consumptions away from traditional media sources and more toward social media sources (Poindexter 2012; Antunovic, Parsons, and Cooke 2016). As this trend continues, there exists a possibility in which significant problems may arise with consumer confidence based upon widespread false information shared through social media, especially since recent research has suggested[4] that low knowledge citizens are more easily swayed by these easier to understand stories.

Using a survey experiment that presents respondents with two different types of information regarding the late 2018 – 2019 government shutdown and the effect of President Donald Trump's trade policies, the role that economic knowledge has on how respondents respond is measured. One group received technical information, presented in the form of a news story about a report from an economic research agency, while the other received a news report, presented in the form of a story from the New York Times on the personal effects of these two events. This process was done twice, once for the shutdown and once for the trade policies. The respondents were then be asked their thoughts on the current status and future direction of the

[3] Existing research has already shown that the type and tone of media coverage can have significant effects on feelings toward the state of the economy (De Boef and Kellstedt 2004; Doms and Morin 2004; Garz 2013).

[4] Tandoc, Jr et al., for instance, found that the authentication process for people receiving information online was based largely in their personal judgment and knowledge of the subject area in question (2017).

U.S. economy, whether or not they approve of the job of the president, and other related economic questions. A third group was immediately asked the post-test questions without reading any additional information. Several tests were then run on the data collected to see how knowledge affected how this new information impacted the respondent's opinion on the state of the economy.

Finally, in Chapter Seven, I pull together the results from the previous chapters and place the findings within the existing literature. I re-examine the theory of economic voting and decision-making and how the results I have presented push this work forward and discuss where my hypotheses were off-base. A large section of this chapter also focuses on what my tests could not say about this relationship and how future research may guide toward answers for these remaining questions. For instance, the timing of this study does not allow for a test of these theories in an election setting. While we may expect many of the same relationships to exist, an in-depth study that takes place directly during an election and that measures the effects on votes is necessary to fully understand this relationship. An additional string of research that could also be examined is how knowledge affects blame attribution. Significant research has already shown that partisanship and economic ideology are among the biggest predictors of whom a person will blame for economic conditions (Rudolph 2003), and it is easy to see how a relationship might also exist between these attributions and economic knowledge.

Chapter 2: Literature and Theory

Research over the decades has left little doubt as to whether our perceptions of the economy affect our political decision-making. Countless studies have demonstrated that citizens will punish incumbents when they fail to preside over a strong economy and will reward them when they do. While the 'whether or not' question of the interaction between economic performance and electoral success is generally accepted by the academic community, several questions remain about how Americans form and apply their perceptions of the economy. Specifically, little work has been done to determine how these perceptions may be distorted by how *much* Americans know about the way the economy works or the current state of economic affairs. Research has shown that a general lack of knowledge leads people to vote and hold opinions different than they would hold were they fully informed (Bartels 1996; Althaus 1998). Others have extended this work and have shown that when voters are given factual information about a subject they are able to overcome information limitations and express opinions similar to those with high information (Gilens 2001).

The lack of research considering what people know about the economy has significantly dampened our ability to understand how people apply economic judgments to political decision-making and opinion formation. If, as we may assume, people are operating on less than ideal levels of information about the economy, then what are the consequences for their opinions toward economic issues or how they use the economy as a heuristic to make other judgments? By combining literature on economic voting, political knowledge, and economic research on the consequences of changes in consumer confidence, I seek to gain a more complete understanding of how our knowledge of the economy mediates our ability to form opinions on the state of the economy and how these opinions are utilized when making political judgments. As is the case

with general political knowledge, I argue that low and unevenly spread levels of economic knowledge in the American public significantly affect how economic information is processed and how Americans use these opinions to make political judgments. Because this information is highly technical and unevenly distributed, this leads to voters at the low end of the knowledge spectrum being more likely to make 'incorrect' judgments based upon their perceptions of the economy.

My argument that economic knowledge is a strong mediator of how people form their judgments and process new information is firmly rooted in the existing literatures on both economic voting and political knowledge. While research suggests that all people are likely to rely on some form of economic evaluations to form their political opinions, they do not all do so in a similar way. Because some people understand more about the economy than others, we see large differences in the types of evaluations used, and the extent to which they drive political judgments. This has significant implications for how we understand existing theories. A failure to consider how knowledge mediates this relationship means that our understanding of the mechanism at play is flawed, especially those that argue monolithic movement based upon real economic conditions. Surely, we cannot expect low information and high information voters to be acting upon real conditions in the same way, as low knowledge voters are unlikely to even know what is going on outside of their small section of the world. Additionally, these low information voters have a decreased capacity to reject bad information into their pool of considerations, altering their opinions on the economy more erratically, and often more erroneously. Instead, I argue that economic knowledge conditions the time frame, scope, and magnitude of economic evaluations generally, and in how they are utilized when forming other political opinions. In general, the public appears to be largely ignorant of basic economic facts

and are, in many cases, holding opinions on the performance of the economy significantly different than they would were they more knowledgeable on the subject.

The consequences of this lack of knowledge can be severe. In addition to the already mentioned effect on vote choice, previous research has led researchers to expect people to utilize their economic judgments when forming opinions on presidential approval. Specifically, in this dissertation, I compare how presidential approval would differ were all people 'fully informed' on economic issues versus the actual levels of knowledge found in the public. The importance of this work extends beyond just the understanding of the direct political implications of the economic knowledge gap. While this dissertation shows a warped ability for Americans to hold their leaders accountable, it also helps to understand some shifts in the performance of the economy itself. Several of the most prominent theories in macroeconomics recognize the role of perceptions on economic reality. When people believe that they will have less future income they are more likely to save, reducing the amount of consumption in the economy. This means that there exists a possibility in which widespread misperceptions of the economy could lead to consumers acting in ways they would not otherwise. Understanding how the public responds to information based upon their previous knowledge of the economy will not only help to inform political leaders, it may also help economic policymakers understand how to address the public in the future.

A Brief Look at the Existing Literature

While the related literature will be explored more in depth in their appropriate chapters, it is important to explore the basics of three relevant literatures to establish and understand this theory and its importance. Thus, this section will serve as a brief overview of economic voting

and evaluation, political knowledge and sophistication, and lastly a look at economic research regarding the consequences of fluctuations in consumer confidence. After these three topics have been introduced, a broad theory of how economic knowledge affects political judgments will be proposed.

How the Economy Affects Political Evaluations

There is no shortage of literature establishing a link between the economy and political decision-making, something that is likely unsurprising to any observer of politics. It has long been established that incumbents are punished or rewarded through approval polls or at the ballot box based upon how the economy has performed under their watch. Additionally, the position of the economy as a valence issue of broad agreement (everyone wants economic prosperity, we just disagree about how to get there) suggests a place in the voting formula more prominent than almost any other issue (Stokes 1963; Lewis-Beck and Nadeau 2011). As such, the main purpose of economic voting research has long moved past whether the economy affects political judgments, and instead focuses today on what kind of judgments voters use and how they are applied. This has led to two main debates in the field: the first over whether voters respond more to national changes in economic conditions or to changes in personal financial situations, and the second over whether voters rely more on prospective or retrospective evaluations.

The popular campaign idiom of "what have you done for me lately" implies that voters are primarily focused on how the performance of a president has affected them personally, an assumption that is easy to understand. When seeking to understand the mechanism through which economic voting materializes, it may be assumed that voters first look to how their personal financial situations have changed during the term of a president, and then base their

vote upon whether they are better off or worse off than before. While some researchers have argued that this is the true way through which economic voting occurs (Kramer 1983), the consensus is that voters are actually more likely to act in a sociotropic manner, that is, they are more likely to be moved by changes in economic conditions nationally rather than changes in their own personal finance (Kinder and Kiewet 1981; Lanoue 1994). These effects have consistently appeared to be stronger than pocketbook considerations in individual studies of single elections, as well as in studies of elections across time (Lewis-Beck and Stegmaier 2007; Linn, Nagler, and Morales 2012). This means that rather than looking at how they themselves have done, voters will instead look to how the nation as a whole has done; however, many researchers have suggested that this does not mean that voters are acting altruistically. While voters may not directly be basing their evaluations on their personal economic situations, they are certainly in mind when voters look at the national economy, expecting that any change in national economic conditions will certainly come to affect them in some way (Linn, Nagler, and Morales 2012). The lack of a direct connection between a voter's personal financial situation and their political judgments may seem surprising at first, but it is well supported, not just through the research on economic voting, but also by research on American attitudes towards economic responsibility (Feldman 1982). Feldman argued that Americans did not make the direct link between government activity and their personal finances because of a sense of economic individualism, the feeling that they were responsible for themselves, and instead see any change in their situations as the result of their own work. Thus, this disconnect blocks them from making directly pocketbook evaluations politically.

A second main argument in the economic voting research surrounds the time frame the voter considers when making their decisions. In other words, are voters forward-looking, making

prospective judgments about how a candidate would perform were they elected as proposed by Downs (1957)? Or, are voters more retrospective in nature, judging incumbents on their actual previous performance in office, similar to the theories of Key (1966) or Fiorina (1981)? Downs argued that when facing an electoral decision, voters would support whatever candidate they believed would bring them the maximum benefit once they were in office (1957). In other words, they seek to predict which candidate would make their life better were they elected and make their decisions in part by these forward-looking evaluations. This logic has been extended by supporters of prospective economic voting theories, who argue that it is the economy on which voters are basing these judgments. Evidence exists to suggest that voters do act prospectively when forming several political judgments, such as presidential approval (MacKuen, Erikson, and Stimson 1992), their presidential vote (Lockerbie 1992; 2008), and their vote in congressional races (Abramowitz 1985; Lockerbie 1991; 2008). Among the supporters of the prospective evaluations were MacKuen, Erikson, and Stimson (1992), who offered the highly influential description of voters as bankers, highly sophisticated and able to make predictions about future changes in economic circumstances rather than mere peasants, who had to refer only to their past experiences. The authors supported their argument by showing that changes in consumer expectations were highly predictive of changes in presidential approval, suggesting that voters were responding to the anticipation of some economic event, the "dark clouds on the horizon" (MacKuen, Erikson, and Stimson 1992, 606). Lockerbie (2008, 11) more recently supported this theory, arguing that when people vote they are doing so "with an eye to the future". According to Lockerbie, voters do not look back to see how incumbents have done, but instead seek to maximize their future benefit, borrowing from Downs (2008). When seeking to maximize their future benefit, voters will compare the candidates before them and attempt to predict how they

will perform in office. This allows the voter to still feel okay voting for an incumbent they believe has performed poorly, as long as they believe the challenger would perform even more poorly (Lockerbie 2008). While intuitive, problems do exist for the prospective voter model, especially when considering that this model places "higher demands on the voter" (Lockerbie 2008). Despite this acknowledgment, few attempts have been made to study how these higher demands affect the ability of the voter to engage in this sort of decision-making.

Opposite the prospective voting theory is the idea that voters look to the past when forming their evaluations of incumbents, the "lately" part of the "what have you done for me lately" saying. That is, instead of looking to the future and attempting to guess which candidate will give them the most benefit, they instead look to the past and judge incumbents based upon what they have actually done while in office. This idea is largely built upon the ideas of V.O. Key, who argued that the role of the voter is to be the "appraiser of past events, past performance, and past actions" (1966, 61). Extending this to the economy it is easy then to see how, as perhaps the most important valence issue (Stokes 1963; Lewis-Beck and Nadeau 2011), this issue comes to dominate political decision-making, meaning that elections serve, in the words of Morris Fiorina, as "referenda on the incumbent administration's handling of the economy" (1981, 26). If voters are seeking to judge past performance, then it only makes sense that voters will be thinking of the economy when making these decisions. This has largely been the findings of decades of research into retrospective economic voting, which has found, similar to the prospective research, that retrospective evaluations of the economy are strong predictors of presidential approval (Norpoth 1996), presidential vote (see Lewis-Beck and Stegmaier 2007 for a review of this literature), and non-presidential elections (Lewis-Beck and Stegmaier 2000). Norpoth, for instance, directly refuted the banker theory of MacKuen, Erikson, and Stimson,

essentially arguing that prospective evaluations were simply retrospective evaluations in disguise, stating that they "prove too closely tied to retrospective evaluations to have any independent weight" (1996, 789). Additionally, unlike prospective effects, retrospective effects have been shown to be consistently strong across time (Kiewiet 1983; Norpoth 1996; Nadeau and Lewis-Beck 2001).

While this dissertation will primarily focus on the effects of economic perceptions, it should also be noted that retrospective measures of real economic performance have also been tested and have shown strong effects, such as per capita income change (Erikson 1989), unemployment (Kiewiet and Udell 1998), and gross domestic product (Lewis-Beck and Rice 1992). That is, voters seem to respond to actual changes in the economy, regardless of whether or not they 'perceive' these differences for themselves. So, if the unemployment rate in recent times has increased, voters will likely punish the incumbent party, whereas if it has fallen they will reward them. The effect of the economy in these measures is so strong, that economic performance has become one of the major pieces of most presidential election forecasting models. A review of the academic models published to predict the 2016 election, for instance, shows that most major academic models including some measure of the economy in their estimates (Campbell et al. 2017). Erikson and Wlezien (2016), for example, used a model that sought to predict the Democratic Party's vote share in 2016 using quarterly growth in the Index of Leading Economic Indicators. Their model was only off by 1%, slightly over-estimating the vote that Democratic candidate Hillary Clinton received (Campbell et al. 2017). Lewis-Beck and Tien's (2016) model included a measure for the Gross National Product growth in the first two quarters of the year. Ultimately, their model was only off by 0.1% (Campbell et al. 2017).

While these perceptions play a large role in the health of our democracy, and as I will discuss later, the health of our economy, there still exists significant room for improvement in our understanding of how these evaluations are formed, with little research paying attention to the actual economic perceptions themselves (Lewis-Beck and Stegmaier 2007; Kanji and Tannahill 2013). Certainly, we could assume that many changes in the public's attitudes about the economy come from experiences they have had with the real economy, but these changes alone cannot explain all the variation that exists when the public is polled on these matters, and it certainly cannot explain why we see periods of irrational or unexplainable optimism or skepticism about future conditions. If the economy alone was the driver of confidence or opinion on the economy, then we would expect to find more uniform views across the public based upon our shared experience with the national economy. Instead, we see situations such as in the 2012 ANES, with opinion on economic conditions almost evenly split. Even among smaller areas, such as states or cities, where economic growth may be occurring faster or slower than at the national level, variation exists within respondents when asked about economic conditions. Among the causes that have been explored as a mover of consumer sentiment beyond simply the economy itself has been politics. The role of politics, however, has been hotly debated by scholars, with some arguing that politics plays little to no role in how we feel about the economy (MacKuen et al. 1996) and others arguing that our economic evaluations are simply our partisan evaluations of the government in disguise (Conover et al. 1987). Recent attempts to disentangle what influences consumer sentiment have found some support for both camps. De Boef and Kellstedt (2004) sought to explain how much consumer sentiment was influenced by real economic changes and how much was influenced by other factors. Their analysis found that

about 75% of the variation in consumer sentiment could be explained by changes in the economy, with a significant portion being explained by political events and media coverage.

Seeing as how so much room is left for other influences, we must also consider the political context in which these perceptions are being formed. While real economic conditions, especially changes in GDP, have shown to matter more when we decide how we feel about the economy (Lewis-Beck et al. 2013), research does exist that shows partisan preferences can significantly alter a person's perception of economic performance (Bartels 2002; Evans and Pickup 2010)[5]. Considering the strength that partisanship holds over how we view the world, it should not be surprising to see that it also affects the way we view the economy in some capacity. While it is reassuring to know that most of the variation can be explained as reactions to real economic events, the fact that so much of these changes are influenced by politics and media raises significant questions about how well citizens can really use the economy as a gauge for political decision-making, especially when one considers how positive and negative economic information is received. There exists in people a tendency to reject information that conflicts with our pre-conceived ideas and accept information that helps reinforce them. This motivated reasoning also appears when considering how people view the economy. Partisans will have misperceptions of economic times under presidents of the other party when it is beneficial mentally for them to do so (Bartels 2002; Bisgaard and Slothuus 2018). Additionally, when applying these evaluations to political decision making, there appears to be some evidence that partisans can be selective in when they utilize them and when they choose to ignore them. For instance, when economic conditions are not clearly good or bad, as was the case in 2012,

[5] Evans and Pickup (2010) suggest that the effect of partisanship on economic perceptions is so strong that it calls into question the direction of effect. That is, when partisanship is effectively taken into consideration, the effect of sociotropic evaluations on popularity are minimal.

partisan bias appears to have its strongest effects (Healy and Malhotra 2013). Additionally, media coverage of the economy appears to suffer from the same negativity bias as other news coverage and may be distorting views of the economy. News relating to the economy tends to fill more airtime when conditions take a turn in the wrong direction, with journalists emphasizing economic collapse and understating recovery (Damstra and Boukes 2018). This over-emphasis on negative news is troubling as people more strongly react to negative economic information than to positive economic information (Hetherington 1996; Soroka 2006). This overly pessimistic trend of both the media and the public can have severe economic consequences, as will be discussed in a later section.

By ignoring the effect that knowledge of the economy may have on their ability or willingness to apply economic evaluations to political judgments a significant gap has been left in the literature with possibly severe intellectual consequences. Perhaps it is the case the voters can be both peasants and bankers, with the more knowledgeable voters looking like MacKuen, Erikson, and Stimson's bankers, and the less knowledgeable looking like peasants. Perhaps it is the case that economic voting is not something conducted by all Americans equally, with highly knowledgeable voters seeking out different evaluations or levying different sized electoral penalties based upon their understanding of who is to 'blame' for economic conditions. Several researchers have questioned whether voters are capable of accurately perceiving economic conditions, and yet no such study has been conducted to test how knowledge of the economy may affect the ability of the voter to do so. If, as we could assume, knowledge of the economy plays a significant role in how people perceive and utilize the economy as a decision-making tool, what might this mean for the ability of our democracy to work properly?

Political Knowledge and Sophistication, or the Lack Thereof

I can begin to make assumptions about how economic knowledge may impact these judgments through a survey of the existing research on how political knowledge affects public opinion generally. The most prominent study of political knowledge was conducted by Delli Carpini and Keeter (1996, 218), who argued the importance of political knowledge by stating that knowledge is "an instrumental good that helps to enlighten one's self-interest and to translate it into effective political action". Thus, according to the authors, understanding what knowledge Americans had about politics was a vital step in determining the health of our democracy. The purpose of voting after all is for the citizenry to share their opinion on the issues facing the nation and the leaders tasked with dealing with them. The results, however, were not necessarily promising for those with concerns about a responsive democracy. They found that political knowledge in the American public was not especially prevalent, and was unevenly spread among the public, with those with the most socioeconomic resources typically having higher levels of knowledge. The consequences of this was a democracy skewed in favor of those with the most; "If more knowledgeable citizens are better equipped to articulate their interests and better able to reward and punish political leaders for their actions, then when interests clash, less informed citizens are at a decided disadvantage" (Delli Carpini and Keeter 1996, 218). How can a citizen vote in their own best interest if they do not even know what is going on in the political world or who our leaders are? The low levels of knowledge were not just a symptom of the period, either. Delli Carpini and Keeter's analysis considered a plethora of questions over 50 years, finding that general levels of knowledge were consistent for the most part. The proliferation of the internet in the more than twenty years since Delli Carpini and Keeter's initial analysis has not shown to have had a significant impact on what people know about politics,

despite the ease of access of information in a nearly completely connected and online world. Recent research has even suggested that the internet could be a source of misinformation among the public. Studies have shown that increased social media usage actually has a negative effect on political knowledge, especially when social media acts as the primary source of news for a user (Cacciatore 2018; Lee and Xenos 2019). Additionally, increased usage of social media leads to a decrease in traditional media usage (Gil de Zuniga and Diehl 2018).

By itself this finding is worrisome, but it is even more so once we take a deeper look at how the consequences of uneven knowledge materialize. In many instances, it has been shown that a lack of knowledge changes how we feel on many issues, and sometimes even affects who we vote for. This was recognized by Delli Carpini and Keeter in their initial analysis, showing significant differences in opinion on several issues and vote choice based upon levels of knowledge (1996). Additional studies have looked at the effects of knowledge on specific issues and elections more closely and have sought to understand how opinions would change in a world with full knowledge. Althaus (1998), for instance, found that fewer people would support spousal notification laws relating to abortion were the electorate fully informed on the issue. On average, opinion on all issues would shift in one direction or the other by 7.08% in a fully informed society. Bartels (1996) conducted a similar simulation on vote choice, finding that incumbents and Democratic candidates were generally aided by this lack of knowledge in the electorate. While these results certainly are worrisome, there are some researchers that suggest voters can overcome this lack of knowledge and act as they would were they fully informed under the right circumstances. In other words, lack of knowledge does not mean that people will not still try to make the most informed decisions whenever possible using the information they do have at hand. Instead of relying on direct knowledge, people instead look for mental

shortcuts, or heuristics, to mimic the behavior of more informed voters to various degrees of success (Lupia 1994; Lau and Redlawsk 1997; 2001). When it comes to referenda regarding complex policy issues, there is some evidence to suggest that certain types of information about how experts feel on the issues can translate into low knowledge voters mimicking the behavior of high knowledge voters (Lupia 1994). Lau and Redlawsk (1997) specifically looked at how heuristics helped voters "vote correctly", that is, how they were able to utilize heuristics to overcome knowledge shortcomings and vote as they would were they fully informed. According to the researchers, voters were efficiently utilizing these shortcuts, and were voting correctly most of the time. By most of the time, the researchers were talking about the average accuracy they found across the five elections they studied, which was about 75% (Lau and Redlawsk 1997). While we certainly should be happy that voters are able to vote correctly 'most of the time', we must still ask ourselves if we are okay with an electorate that is only 75% accurate. This leaves a significant amount of room for error to occur in a nation where national elections are often decided by just a few percentage points. A later study by the same authors again raised questions, however, about how the knowledge gap may affect how well voters use these shortcuts. Their findings showed that while heuristic use did increase the probability of a correct vote for more informed voters, it decreased the likelihood of a correct vote for less informed voters (Lau and Redlawsk 2001).

Direct policy specific information also seems to follow the same pattern regarding effectiveness with regards to levels of political knowledge. Using a survey experiment that provided some respondents with policy specific information before asking their opinion on certain issues, Gilens found that policy specific facts were most effective when given to highly knowledgeable respondents and less effective for those with lower levels (2001). That is, it

appears that people with higher political awareness in the first place are better suited to incorporate policy specific facts than are the less aware. In many ways, we may find these results both surprising and expected. For one, we might expect policy specific information to be less effective when given to respondents with higher levels of political knowledge, as they are the ones who actively expose themselves to political information. However, we also might expect people with low levels of political knowledge to not be able to absorb the information they are being given in a meaningful way.

A final consideration when discussing the low levels of political knowledge in the public surrounds the prevalence of misperceptions. Because people often know little about the government and politics it is easy for wrong information to make its way into the mind of the public. As was stated before, social media has proven to be an especially potent producer of false information (Cacciatore 2018; Lee and Xenos 2019). Often these misperceptions are a result of a person's own factual ignorance or misunderstanding of a certain topic, but they can also be purposefully perpetuated by elites such as politicians spinning issues for their gain. Without the proper knowledge to know whether to accept this misinformation or to deny it, people may inadvertently come to hold opinions on issues that are severely detached from reality. A prime example of such misperceptions was the belief that President Barack Obama was not an American by birth, a conspiracy theory that was pushed by some members of the right-wing media. Correcting these misperceptions can be hard, and studies have even shown that attempts to correct misinformation can lead to a backfire effect, in which people become even more confident in their misinformed views even after being presented with contrary evidence (Ross and Leper 1980; Nyhan and Reifler 2010). This effect is even more pronounced in respondents with low levels of political knowledge. This might not be too shocking considering that many of

the misperceptions that exist in the current political world likely are the result of a person's own political biases seeking out information that meshes with what they want to believe rather than what is truly occurring. We must consider what this means for economic-based political decision making.

It is clear when surveying the literature on knowledge that political science is missing a large part of the puzzle of how people use their economic judgments to form political opinions. The economy can be a complex, multi-faceted issue, taking on many different shapes in the forms of monetary policy, fiscal policy, issues of the deficit and debt, unemployment, etc. Not knowing how any of these issues work could lead voters to hold opinions or to even cast votes different than they would were they more knowledgeable on economic issues. Additionally, while the effects of low knowledge should be concerning if we wish to live in a democracy that holds its leaders accountable, if misperceptions are able to force their way into the mind of voters the consequences could go beyond simply the results at the ballot box or the percentages on a poll. Real economic consequences are a possibility as a result of both low knowledge and the misperceptions that this low knowledge can cause.

The Economic Consequences of How We Think

While the relationship between economic perceptions and political evaluations has largely been established, there also exists a relationship between economic perceptions and economic reality. While, as was discussed before, economic reality has been found to at least partially influence our perceptions of the economy, there also exists a possibility for economic reality to be influenced by economic perception. Economic research has long found that changes in consumer sentiment can predict changes in real economic measures (Carroll, Fuhrer, and

Wilcox 1994; Mourougane and Roma 2002). This is most easily understood through the relationship between expectations and consumer spending and the idea of precautionary savings (Carroll, Hall, and Zeldes 1992; Browning and Lusardi 1996). When consumers believe, for whatever reason, that there are rocky economic conditions coming, they may adjust their current behavior in preparation. So, when people believe that they will have a lower income in the future, they will increase their savings today to account for the expected decrease in income. This increased savings necessarily leads to a decrease in consumer spending. This sort of precautionary behavior can then potentially lead to a self-fulfilling prophecy, in which the decreased consumption of today leads to the predicted future decrease in economic activity (Keynes 1930; 1936; Carroll, Hall, and Zeldes 1992). Winner of the 2008 Nobel Prize in Economics, popular political commentator, and self-professed Keynesian economist Paul Krugman (2012, 28) commonly uses the example of the Capitol Hill Babysitting Co-op to emphasize this sort of behavior, stating that "your spending is my income, and my spending is your income"- that is, when people in an economy aren't spending money, people in that economy are not making money.

According to Krugman's account, the Co-op had set up a de facto monetary system in which participants exchanged coupons with each other in return for babysitting services- you spent a coupon to get a babysitter, and you made more coupons by babysitting for others. At some point, some participants had decided they wanted to save several coupons to have a reserve, which led to noticeably fewer babysitting opportunities presenting themselves to the other members. The decreased number of potential babysitting jobs also decreased the ability of couples to build up their reserves, a realization that rippled through the Co-op's members and caused a further contraction of the miniature economy. This further contraction was caused by

nothing other than the perception by the members of the Co-op that it was harder to gain coupons than it was before, a phenomenon which mimics the behavior of people in the real economy. When people anticipate it will be harder to make money in the future they will cut back on their spending, making it harder for someone else to make money. So then, we must ask ourselves what might this mean for a possible world in which economic information is not particularly high or evenly spread across the public? For one, low levels of economic information could lead to people accepting bad information into their collection of considerations on the economy, in a fashion like the model proposed by Zaller (1992). If a particularly large number of negative considerations enter a person's mind even when the economy is doing well, perhaps through the words of a prominent politician or other elite source as was discussed before, the false sense of panic caused by these statements may lead to unnecessary precautionary behavior, and thus some potential contraction of the real economy.

There are also potential consequences in how the government responds to economic downturns. Policy responses often seek to convince people that it is safe to spend again, as recessions are caused by an economy saving more than it is spending. As was the case in the recovery following the Great Recession, information on what the government is doing, and the effects of these actions, does not always seem to make its way to the public. A typical policy tool used to fight uncertainty and put money back into the economy is the lowering of interest rates to discourage saving and encourage spending. In the case of the Great Recession, interest rates were pushed to near zero and yet uncertainty about the economy persisted and activity remained dampened for an extended period (Leduc and Liu 2012). Additionally, we can once again look back to the example of TARP to see that many Americans knew very little about one of the most prominent policy responses to the crisis. Finally, there remains the fact that so many Americans

believed the recession was still occurring even in the lead up to the 2012 Presidential Election. Herein lies the potential hazards of low economic information in the public on both ends of a potential economic downturn. Poor economic information can lead to an unnecessary decrease in consumer spending to begin the downturn, and poor economic information can also lead to misperceptions of recovery and thus an unwillingness to begin spending again to end the downturn.

My Theory and Hypotheses

While the role of knowledge has been shown to have a strong impact on opinions in other domains, it has barely been applied to its role in how economic opinions are formed and then utilized, and the existing literature that does look at the interaction between knowledge and economic opinions looks at general political knowledge or education levels and does not consider the specific nature of economic information. Gomez and Wilson, for instance, studied how general political knowledge affected the pocketbook v. sociotropic side of economic voting (2001). Their results showed that more knowledgeable voters were more likely to engage in pocketbook voting, while less sophisticated voters were more likely to engage in sociotropic voting, suggesting to the authors that less knowledgeable voters were more likely to lay blame for economic conditions on the president than more knowledgeable voters (Gomez and Wilson 2001). In a more recent study, Acevedo, Fogleman, and Ura (2017) sought to study how knowledge affected the likelihood of voters to act as either peasants or bankers. Their measure of knowledge, however, was simply a variable measuring the level of educational attainment by the respondent, finding that respondents with higher levels of education fit the model of the sophisticated banker forecasting the future, while those with lower levels of educational

attainment were the simple peasants looking to the past (Acevedo, Fogleman, and Ura 2017). While both of these studies are important in that they consider that knowledge may affect economic voting, they do not discuss the large difference that may exist between political knowledge and economic specific knowledge. As was mentioned above, Gilens (2001) has already shown the effects that policy specific information can have, and the shortcomings of these existing works is also amplified once we consider the research that suggests that even the most politically knowledgeable individuals may be lacking knowledge of certain policy specific facts (Kuklinski et al. 1998). So, because an individual may be able to identify which party currently controls the House of Representatives or who currently serves as the Chief Justice of the Supreme Court, we should not assume that they could also correctly identify the current level of unemployment, the rates at which the Federal Reserve is considering, or how much growth the nation saw last quarter. As Gilens (2001) has shown, this ignorance of policy-specific knowledge can have significant effects on public opinion.

In this dissertation, I argue that if we are to fully understand how voters use the economy as a metric upon which they form political opinions and vote choices, we must investigate this missing piece of the puzzle. That is, I argue that deviations in opinion on the economy are at least partially explained by what the public knows about the real economy and how the information is conveyed to them. Because of the complex nature of these economic facts, I expect to find that economic knowledge is even more unevenly distributed than is general political knowledge, with a larger difference existing between the knowledge of those in the top quartile of the populace and those in the lower quartile. This leads me to my first set of hypotheses that I will test in this dissertation:

H1: Respondents will score lower on an economic knowledge quiz than on a general political knowledge quiz.

H2: The disparity between low knowledge and high knowledge respondents will be greater for economic knowledge than general political knowledge.

H3: Socioeconomic factors will show a stronger relationship to the possession of economic knowledge than general political knowledge.

Beyond looking at the distribution of economic knowledge in the public, I also argue that significant differences in opinion exist between reality and what the public would think were they completely economically informed. This analysis begins in Chapter 4 with a look at the effects of economic knowledge on attitudes towards several issues and policies directly related to the economy. As we have seen in previous literature, there exists the possibility that the expressed opinion of a person would significantly change were they fully politically informed on an issue (Althaus 1998; Gilens 2001). As such, we may expect the same phenomenon to occur for economic issues and economic knowledge. To test for the possibility of significant opinions differences between the informed and uninformed, a series of models are created that estimate the effects of descriptive and political variables on several issues. The economic knowledge scale is also added into this model to test for independent effects of knowledge, and estimates are also created showing the likelihood that a person would support a certain policy across the knowledge scale. This allows me to test the differences in opinion between the most and least knowledge citizens, holding all other factors constant. This will allow me to test the following hypothesis:

H4: Economic knowledge has a significant effect on opinions towards economic issues.

H5: Those with the least economic information will hold significantly different opinions on economic issues than they would were they fully informed.

I will then shift my focus away from general opinions to look at the effect of economic knowledge on how people evaluate the performance of the President of the United States. I expect to find that the economy is a significant driver of presidential approval per existing studies (Norpoth 1996; Erikson et al. 2000). What is more uncertain is how economic knowledge may be altering the extent to which citizens rely on the issue when forming their judgment, or how much approval would change were a fully informed public simulated. To begin, I will look at how approval is affected by economic knowledge when it comes to how we look at the two largest divisions in the literature: pocketbook vs. sociotropic and retrospective vs. prospective evaluations. By including the measure of economic knowledge in a traditional model of presidential approval, we can begin to look at these commonly asked questions in a new light. Do citizens with low levels of economic knowledge act as peasants while their more knowledgeable peers act as bankers, a la MacKuen, Erikson, and Stimson (1992)? Perhaps we will find that the more knowledgeable are able to evaluate the president in a prospective manner, while the less knowledgeable are only able to pull from the past. Using the existing studies that use general political knowledge in models of political judgment as a starting point, I will test the following hypotheses with economic knowledge:

> H6: The higher one scores on the economic scale the more likely they are to engage in pocketbook voting. Conversely, the lower they score the more likely they are to engage in sociotropic voting.
>
> H7: The higher one scores on the economic scale the more likely they are to engage in prospective voting. Conversely, the lower they score the more likely they are to engage in retrospective voting.

H8: Economic knowledge directly affects the strength to which citizens rely on economic evaluations to determine whether they approve of the job the president is doing.

As several studies have already shown that opinion on several issues would be significantly different were the public fully informed, I must also consider how this materializes with the economy. That is, would we see a significant difference in economic perceptions were the public fully informed economically, and how would these differences affect presidential approval? Additionally, might we see the effectiveness of sociotropic and retrospective evaluations become completely insignificant, assuming prior assumptions hold? Using the fully informed public, I will test the following hypotheses:

H9: Given recent economic performance, a "fully informed" public would have a higher approval rating of the current President than the public does currently.

H10: A "fully informed" public would be more likely to rely on retrospective/prospective evaluations when judging the president.

H11: A "fully informed" public would be more likely to rely on sociotropic/pocketbook evaluations when judging the president.

I will also consider the interaction between partisanship and economic knowledge when judging the presidency. Because people are motivated reasoners and have a strong desire to rely more heavily on those perceptions that reinforce their prior attachments, we might expect to see a reduced reliance on economic perceptions when judging the president even among the more partisan when those perceptions are not convenient. That is, we may find that a more economically knowledgeable Democrat may rely less heavily on economic perceptions when judging a Republican president that serves during strong periods of economic growth.

H12: Partisanship affects the strength of economic perceptions when applied to presidential approval, causing people to rely on them more heavily or less heavily on these perceptions when it is convenient to do so.

Because of the complexity of economic information and the difficulty that exists in conveying information to the masses, I believe that I will see that economic knowledge also affects the way individuals react to different types of information. As I have already discussed, providing people with policy specific information can significantly alter their opinion on a subject, but this effect is heavily conditioned by how much the person already knows. Specifically, I will test how knowledge affects the way people respond to two different types of information sources: technical reports on the economy such as those produced by research groups and news reports of economic change such as those a person may find in the media or being spread by a politician. Obviously, the less economically informed a person is, the less likely they will be to understand and accept a technical report on economic conditions from a government agency. More likely they will be influenced, as has been suggested by others, by the easier to understand stories. Additionally, we cannot ignore the impact that partisanship will have on how respondents react to these prompts. Because of the natural want to reject information that does not align with our prior partisan beliefs, I believe I will see strong interaction effects between party identification and the type of information received, even after controlling for economic knowledge. That is, I believe I will see that even the most highly knowledgeable partisan would reject a technical report on the economy should it not mesh with their prior partisan desires, and vice versa. In studying how knowledge affects reaction to information, the following hypotheses will be tested:

H13: More economically knowledgeable respondents will be more likely to respond to technical information about the economy than less economically knowledgeable respondents.

H14: Less economically knowledgeable respondents will be more likely to respond to news stories about the economy than more economically knowledgeable respondents.

H15: The effects of partisanship will remain significant in determining how people respond to information even after controlling for economic knowledge.

Conclusion

When considering the breadth of research that has been conducted on how voters use the economy as a political decision-making tool, it is somewhat surprising that such a large question has yet to be studied. As we have seen from those who study the effects of political knowledge, significant differences can exist between how people feel and how they would feel were they more aware of the world around them. Knowledge of the political world is often considered a necessary piece of a functioning democracy, and yet all research suggests that the public is making its most important political decisions on limited information. We certainly should expect to find this in economic perceptions as well and by extension the opinions on which we use our perceptions as a guiding tool. When thinking about the economy, there are certain things that are facts. Over a president's term the unemployment rate is unlikely to stay at the same level. Growth rates are unlikely to stay flat. The stock market will either have grown or contracted. But even though some things in the economy are necessarily true, a quick peek at any survey will show that the public cannot agree on questions relating to whether the economy had gotten better, or unemployment had risen, even though there are definite answers to these questions

most of the time. A significant portion of the electorate remains uninformed on what is occurring in the economic world around them, and yet we still find that our economic perceptions perform as one of the best predictors of how we act politically.

This dissertation makes significant contributions to the existing literature by studying what Americans know about the economy and how this knowledge ripples through our political judgment making. By considering economic specific knowledge directly I bring together several strands of research that have developed independently of each other and yet help to answer the same broad questions about political behavior and the thought process and procedures of the citizen. Additionally, by looking at economic knowledge rather than general political knowledge I overcome the most significant shortcomings of the little literature that has focused on this question. While the existing work provides an important baseline for how we should study the knowledge portion of economic perceptions, it falls well short of providing a full picture of what can be a complex issue.

Chapter 3: What Americans Know About the Economy

In general, the issue of political knowledge has been thoroughly studied, and understanding as to what constitutes 'political knowledge' has been established. The economy, however, is a much more specialized and technical domain than is general politics. We may expect the public to know who the current Vice President is, but should we also expect them to know who the current chair of the Federal Reserve is? We may expect them to know which party currently has control of a certain chamber of Congress, but should we also expect them to know the rate at which GDP grew the previous quarter? These pieces of knowledge, and specifically the numbers that tell us about the health of our economy, are important pieces of information that most are unlikely to know even though these numbers can directly tell us about the state of affairs when we are making our judgments. Many facts about the economy are more difficult to interpret, making it even harder for most of the public to grasp than general political facts. So, while we may expect there to be some relationship between those who are politically knowledgeable and those who are economically knowledgeable, we cannot assume there to be perfect overlap. This is especially the case when we considered the evidence that suggests political knowledge does not necessarily predict issue-specific knowledge (Gilens 2001). Thus, we must consider what information about the economy a reasonably informed person should know.

In this chapter I begin to analyze the levels and distribution of economic knowledge in the American public, starting with a discussion of the development of a nationally representative survey that asked a wide range of subjective and objective questions related to general politics and current economic conditions. This survey serves as the basis for a large part of my analysis of the effects of economic knowledge in the public. Using this survey, a scale for measuring

economic knowledge is created using a combination of questions based upon previous studies of political knowledge as well as questions borrowed from general high school economics exams. Using these numbers, I analyze who knows what, who knows how much, and how these differences materialize in the public. In general, the findings largely conform to my expectations. Economic knowledge is largely the possession of the more privileged in American society. Those with higher levels of education and income were more likely to possess economic knowledge than those with less, reinforcing the more fortunate class's ability to engage in democratic matters in a manner that truly benefits them.

Developing the Survey

The quest to find out what the public knows about the economy first begins with a look at the existing research on political knowledge. This not only gives a reference to compare the economic knowledge numbers to, but it also helps guide in the construction of a knowledge quiz to measure these things. The most comprehensive of these studies comes from Delli Carpini and Keeter (1996). Delli Carpini and Keeter, as was mentioned in the previous chapter, showed that knowledge on political matters was not especially high in the United States, and the knowledge that did exist seemed to favor those with more socioeconomic resources. This discrepancy between high and low knowledge citizens based upon socioeconomic lines paints a grim picture for our democracy, in which the only citizens that appear to be well-suited to voice their interests politically are those who already have the most. The authors relied on a number of sources when writing their analysis, including an original survey conducted in 1989 that specifically probed respondents on an array of factual questions that they determined were facts that *should* be known by the public. The authors relied on several factors to determine what these facts should

be, including their experiences as instructors of introductory political science courses and the suggestions of previous researchers.

The questions included on Delli Carpini and Keeter's survey generally fit into three broad topics, "[the] rules of the game, people and parties, and the substance of politics," which could be broken down into seven more specific topics, "institutions and processes, civil rights and liberties, public figures, party politics, domestic affairs, foreign affairs, and political history" (1996). After analyzing the results of their survey and conducting a series of tests to determine the quality of the individual questions, the authors determined that "five items explained over three-quarters of the variance in the full 39-variable measure, and 10 variables accounted for nearly 90% of the variance" (1993). From this, they determined that a measure of political knowledge could be adequately constructed using information generally found in the National Election Studies. This five-item knowledge index was composed of questions asking which party controlled the House, what percent was needed to override a Presidential veto, the ideological positions of the parties, what judicial review was, and who was currently serving as the Vice President (1993; 1996). Using this as my basis, I can begin to determine what questions should be included in a test of economic knowledge. If the purpose of a political knowledge quiz was to determine how well people could identify what government is and what it does, then an economic quiz should similarly focus on these basic concepts. Additionally, as we are interested in how people use the economy as a heuristic to make political decisions, we also must consider how much they know about current economic affairs beyond definitional questions.

In total, fifteen economic knowledge questions were added to measure what the public knows about the subject. These questions generally fit into the same broad categories as Delli Carpini and Keeter's political knowledge questions. To begin, questions regarding the *actors* and

i*nfluencers* of the economy were considered. These questions were crafted in a way similar to existing office recognition questions, such as questions asking who currently serves as Vice President of Chief Justice of the Supreme Court. Three specific offices with influence over the economy were chosen for recognition questions: the chair of the Federal Reserve, the Secretary of the Treasury, and the Secretary of Labor. Additionally, questions testing an individual's knowledge of the *rules of the game* were included. Included in this group of questions were those asking about the federal minimum wage, which body controls the money supply, and which body prints currency. Also included under this category were three questions borrowed from The College Board's AP Macroeconomics test, given to high school as an opportunity to earn college credit. These questions asked definitional questions about budget deficits, hyperinflation, and unemployment.

Finally, a large portion of the knowledge test consisted of questions testing the respondent's ability to recognize *current economic conditions*. As we are interested in how people use the economy as a heuristic, their understanding of the ever-evolving nature of economic conditions is of specific interest for the purposes of my study. These questions asked respondents to identify the current unemployment rate, rate of growth, changes in inflation, exchange rates between the dollar and Euro, the size of the national debt, and the value of the Dow Jones Industrial Average. Each of these numbers are constantly shifting, albeit at different rates, and so we may expect these to be more difficult to answer than questions with more stable answers, such as those about who holds what office or what the definition of a term is. However, many of these are also the most reported on bits of information on the economy. Whenever new estimates on unemployment or GDP growth are released to the public, they are widely reported on in the public, making their way into the public discourse more regularly than these other

factors. The survey also included a number of general political knowledge questions to serve as a point of reference for my analysis. These questions were largely standard, asking people to recognize the current Vice President, President of Russia, Chief Justice of the Supreme Court, which party controlled each chamber of Congress, the necessary majority to overrule a veto, who declares laws unconstitutional, and which party is considered more conservative at the national level.

In addition to considering which questions to include in the survey, the format of the questions was also considered. Rather than relying on open-ended responses to the knowledge questions, the respondents were presented with multiple-choice questions and were required to answer each question. This was done for a number of reasons, most importantly to reduce inaccuracies that may arise from partially correct answers, as well as the disparity between those who are likely to guess and those who would simply default to 'don't know' responses on questions they were unsure about. The use of multiple-choice questionnaires to account for these possible sources of error are well supported by existing literature (Mondak 2001). By using multiple-choice questions rather than open-ended questions for the knowledge survey, the likelihood of a respondent that knows the correct answer to a question second-guessing themselves is significantly reduced. Additionally, while some may worry that multiple-choice questionnaires may lead to artificially inflated knowledge scores due to lucky guesses on the part of the respondents, recent experimental research has suggested that, while multiple-choice questions do result in more respondents answering questions correctly, this increase in correct responses still seems to be tied to the respondent's actual political knowledge (Robison 2015). Another concern was whether or not to include the option for respondents to answer "don't know". Researchers have long suggested that allowing respondents to answer "don't know" may

be masking the true level of knowledge in the public due to the aforementioned increased propensity of some to guess and for others to second guess themselves (Mondak 2001; Luskin and Bullock 2011). Because of this, researchers generally conclude that discouraging respondents from answering in this fashion increases the validity of knowledge measures (Mondak 2001; Mondak and Davis 2001). As such, the option for respondents to answer "don't know" or "unsure"' was not given.

Analyzing the Results

The survey was conducted in mid-February 2019 via the Qualtrics online recruitment system with 405 adults completing the survey. Nearly 53% of the respondents were female and the mean age of the survey pool was 47.6 years. The median education level was some college with no degree. Approximately 13.6% of respondents identified themselves as African-American, while an approximate 15% identified as Hispanic. Just over 66% of respondents identified themselves as white. In terms of political representation, 36% of respondents indicated that they were registered with the Democratic Party, 30.6% with the Republican Party, and the remaining 33.3 indicating that they were either registered with a third party or as an independent. According to the February 1-10, 2019 numbers from Gallup's Party Affiliation trend tracker[6] there is a slight over-representation of Democrats in the sample; however of the 314 respondents that indicated they had voted in the 2016 Presidential Election, the number of people indicating that they had voted for Donald Trump (142) was virtually identical to the number of people indicating they had voted for Hillary Clinton (144). This suggests a slight underrepresentation of Clinton support among the sample based upon the results of the popular vote in that election. The

[6] https://news.gallup.com/poll/15370/party-affiliation.aspx

sample also showed a very attentive public, which may be expected given the high rate of turnout among the members of the sample. Twenty-seven percent of respondents stated that they paid attention to what was going on in government and politics most of the time, with an additional 24% stating that they always paid attention. The commonly cited source for news was television, with news websites and social media coming in at a distant second and third, respectively. Regarding the usage of social media, nearly half of the entire sample indicated that they used some form of social media every day. In a separate question, respondents were asked how much they agreed with the statement that social media was their primary source of political information. Just 26% of respondents either agreed or strongly agreed with this statement. Given the well-documented shift in news consumption from traditional sources and towards social media, it is possible that respondents underestimated just how influential social sources were towards their overall news exposure and consumption.

Respondents were also asked a number of questions regarding their own economic conditions. The median response when asked about household income was between $40,000 and $49,999. Respondents were asked which social class they considered themselves to be a part of. Approximately 12.6% of respondents stated they were a part of the lower class, 34% stated they were a part of the working class, 46.7% indicated that they were a part of the middle class, and just 7% believed themselves to be a part of the upper class. When asked whether or not they themselves or another person living in their household were a member of a union, 17.3% indicated that they were. Respondents were also asked their employment status, with 3.7% stating that they were unemployed and looking for a job, closely reflecting the 4% unemployment rate numbers reported at the beginning of February 2019.

What Americans Know About the Economy

Table 3.1 shows the percentage of respondents who correctly responded to each of the economic knowledge questions. In general, the percentage of people correctly answering each question was expectedly low, with the average percentage correct being 44.2% across the fifteen questions. Of the fifteen questions, just four managed to receive a correct response more than 50% of the time. These were the questions on the minimum wage, who controls the money supply, the definition of a deficit, and the causes of hyperinflation. These questions relate to stable answers, as opposed to the moving targets that can be associated with current economic conditions. Specifically, the question regarding the current minimum wage saw the highest correct response rate at 63.46%. The question receiving the lowest percentage of correct responses was the question asking about Gross Domestic Product growth, a statistic that does change every quarter, with only 19.01% of respondents able to correctly identify the rate of growth. The number of people correctly identifying the unemployment rate, 44.44%, was near the average correct response rate for the entire series of questions. After the correct answers were calculated, the total number of questions that each respondent got correct were tallied to give the first look at an economic knowledge scale. As fifteen questions were asked, people could receive a score from 0-15 depending on how many questions they correctly answered, however, no respondent failed to answer a single question correctly or was able to answer all fifteen. As Figure 3.1 shows, the distribution of knowledge scores has a positive skew, with a large number of scores grouped between 3 and 8. The average score was 6.63, with a median score of 6, and a standard deviation of 2.93. These numbers show the relative lack of economic knowledge present in the American public. On average, respondents were only able to answer between 6 and 7 questions correctly, less than half of the questions asked. Additionally, some of the statistics

that most directly measure the strength of the economy were those that were the hardest to answer, such as GDP. This suggests serious problems for those using the economy as a heuristic when making political decisions. While many may rely on the economy as a cue for decision making, it appears that they are doing so with limited information and may not even have the most basic information about how strong the economy really is when they use it as an evaluation tool.

As a means of comparison, the same process was repeated for the general political knowledge questions that were included. The responses to the general political questions were quite a bit higher than the economic questions. Unlike the results that were found by Delli Carpini and Keeter in their initial analysis, the survey showed that more than half of people were able to answer each of the eight general questions that were asked. Table 3.2 shows the percentage of respondents that correctly responded to each question. The question with the highest correct percentage was the question asking people to identify the office held by Vladimir Putin at 82.47%. Given the heightened presence of Putin in the media in the lead-up to the 2016 election and the subsequent investigations surrounding possible Russian interference, it is not a large surprise that so many were able to correctly identify him. The question with the lowest rate of correct answers was the question asking people to identify the office held by John Roberts. Even as the question with the lowest percentage, however, it still saw more than half of respondents correctly identify the Chief Justice, at 54.81%. As was done with the economic knowledge questions, the correct answers were tallied, and respondents were given a general knowledge score ranging from 0 to 8. Unlike the economic scores, there were respondents at both ends of the scale, possibly due to the reduced size of the general knowledge test. The average score for the general knowledge scale was 5.32, with a median of 6 and a standard

deviation of 2.2. This means that, on average, respondents were able to correctly answer general political questions at a higher rate than they were able to answer economic political questions, 66.5% and 44.2% of the time, respectively.

Given the specialized nature of economic information, it should not be surprising that lower scores are seen in this specific domain than in general political information. While we are certainly exposed to some economic information on a semi-regular basis, issues of general political knowledge are constantly in the news. For instance, while stories about Treasury Secretary Steve Mnuchin's alleged misuse of government funds in the fall of 2017 and subsequent investigations may have made the public more aware of his existence than they would have been otherwise, the coverage over this incident was little compared to the coverage surrounding Vladimir Putin's tenure as the President of Russia. Similarly, while more people may have become aware of Fed Chair Jerome Powell's name because of President Trump's continuing desire to fire him from his position beginning in late 2018, the coverage still was less than Chief Justice John Roberts has received during his many years on the Supreme Court presiding over several high-profile cases such as *Citizens United v. FEC*, *Obergefell v. Hodges*, or the many cases surrounding the Affordable Care Act. Additionally, many schools require the teaching of civics courses in which students learn about the roles and powers of the branches of government, while courses on economics are more commonly taught as elective courses. While it is not surprising that economic knowledge is lower than general political knowledge, it is cause for concern. Existing studies have already shown how political knowledge can affect opinion in a number of ways and given that economic knowledge appears to be lower than general knowledge we must consider how this gap may be distorting opinion on several economic issues. Additionally, to truly understand the impact of the gap we must first look at what factors

influence how much a person knows so we can understand how much of it can easily be alleviated through structural change.

Who Knows What

It is not enough to just know that Americans have limited information when it comes to the economy. We must also consider how this information is spread across the public and to whom. That is, we must investigate which factors influence how much economic knowledge a person has before we can truly understand its impact on public opinion. This will give an idea as to which groups of better are best suited to adequately use their thoughts on the economy to form political judgments, as "the more informed people are, the better able they are to perform as citizens" (Delli Carpini and Keeter 1996). To evaluate the factors that influence the levels of knowledge one has, a series of linear regression models were created that tested the effects of several socioeconomic variables, as well as a number of variables regarding the type and frequency of information that was gathered by the respondents.

Table 3.3 shows the results from the first set of OLS models of economic knowledge, which focused primarily on the socioeconomic and demographic factors that may be increasing or decreasing knowledge in the public. Included in the first model were variables measuring age, education, income, strength of party attachment (measured as a seven-point scale from 'Strong Democrat' to 'Strong Republican'), and ideology (measured as a seven-point scale from 'Very Liberal' to 'Very Conservative'). Additional dummy variables were added to represent respondents that indicated they were African-American, Hispanic, married, or evangelical. The results from Model 1 are not entirely surprising given my expectations of the factors that influence knowledge. As is the case with political knowledge, economic knowledge appears to

be heavily influenced by the amount of socioeconomic resources available to people, particularly the factors most directly associated to a person's economic profile: their education and income. Increasing levels of education showed a significant positive effect on economic knowledge. Given the complex nature of the economy, it is not surprising to find that the more educated one becomes the more they are familiar with the topic. Increasing levels of household income were also positively and significantly correlated with higher levels of economic knowledge. The more money a household makes per year, the more that person knows about the economy. This likely represents the increasing entanglement of respondents with higher incomes with the current economic conditions. The more income a person has the more likely they are to pay attention to various changes in the environment such as changes in the stock market as they track their own investments. The final significant variable that shows a positive effect is age. As a person grows older, they obtain more knowledge about the economy, likely due to a person's increased focused on planning their finances. While education, income, and age each showed a significant positive effect on economic knowledge, one variable showed a significant negative effect on economic knowledge- the dummy variable representing whether a respondent indicated they were a 'born-again' or Evangelical Christian. This is a somewhat surprising result, as no immediate explanation for this effect is apparent. Some may believe this to be some result of the relationship between party attachment and religion, however, it should be noted that even when the Evangelical variable is removed there is no change in significance for either the Party Attachment variable or the Ideology variable. Both fail to attain traditional levels of significance even with the removal of the Evangelical measure.

The remaining models from this group continue to look at the effects of descriptive variables on economic knowledge, particularly those related to a person's economic standing.

Variables were added to the additional models to determine whether or not specific effects remained or disappeared after considering other relevant factors. In Model 2, a variable was added to account for people who indicated that they were unemployed and looking for work. For people out of work and looking to re-enter the labor market, there may be a greater incentive to pay attention to changing conditions. However, this variable shows no significant effect on economic knowledge. Model 3 included dummy variables representing the respondent's perceived social class, with each variable showing the effect that their social class has in relation to those who stated that they were members of the middle class. No significant effect appeared for those who stated they belonged to the working or upper class, however, being a member of the lower class was significantly and negatively related to economic knowledge. This means that members of the lower class have less economic knowledge relative to their middle-class peers, again suggesting that those with fewer resources are more poorly equipped to make evaluations. Finally, in Model 4, a variable was added to account for respondents who were members of a labor union. This variable showed strong significant negative effects, meaning that people who were members of a union or had a union member in their household, possessed less knowledge than those who did not. The result of the Union variable may be due to differences in the kinds of careers that respondents chose, with modern labor unions typically representing blue-collar workers rather than the white-collar types who would be more intertwined with economic change. Taken all together, these results show effects that are largely in line with expectations. The socioeconomic resources that people have are significantly related to the amount of economic knowledge they possess. Those with higher economic status are better equipped to gain knowledge of the economy, both because of their increased education and because of their increased interaction with various sectors of the economy. Figures 3.2, 3.3. and 3.4 show these

effects. Figure 3.2 shows the average economic knowledge held by respondents in different income categories. While the change from one income group to the next does not appear to cause a large change, there is a clear upward trend in knowledge that appears to level out around $150,000. Figure 3.3 shows the same for levels of education, again showing a clear upward trend that levels out between the attainment of a bachelor's and graduate education. Finally, Figure 3.4 shows how age affects economic knowledge, separated into age groups reported by the U.S. Census. The upward trend in knowledge is extremely clear here and doesn't seem to level out at any point.

In addition to the basic descriptive factors that may influence a person's knowledge, I can also test the effects that attention paid to current events and where the information comes from has. These effects are shown in Table 3.4. Model 5 includes a variable indicating how often a person pays attention to politics and government. This variable is a 5-point scale, coded so that increasing values indicate increasing attention, with 1 being 'Never' and 5 being 'Always'. This variable showed a strong positive effect on economic knowledge, meaning that the more a person pays attention to politics, the more they know about the economy. Given the economy's central role in many political discussions, it should not be surprising that someone that pays attention knows more about these issues. Several other models were considered that included several different variables for the different sources of information that a person may use, however only one of these showed any effect on economic knowledge, the usage of social media as a news source. This finding is in line with the existing studies showing the negative effects of social media on general political knowledge (Cacciatore 2018; Lee and Xenos 2019). Model 6 shows the effects of reliance on social media as a primary source of news on economic knowledge. As is the case with general knowledge, social media shows a strong negative effect

on economic knowledge. The more a person relies on social media as a source of information, the less they know about the economy. Given the nature of the type of information that spreads over the internet and the increased usage of it and displacement of traditional news sources (Gil de Zuniga and Diehl 2018), this finding is worrisome but unsurprising. An additional variable was also added to test for the possible effects that websites such as Reddit may be having. Reddit is becoming a larger source of news for many Americans, with Amazon's Alexa Web Rankings showing the link aggregation website to be the sixth most popular site in the United States, ahead of popular social media platforms such as Twitter and Instagram. As was the case with social media, increased reliance on Reddit as a source of information was significantly negatively related to economic knowledge. There are many possible explanations for this finding, which are largely similar to those explaining the effects of social media. Like social media, users of Reddit can largely opt in to what information they see. This can lead to a situation in which people are simply filtering out all economic information or information that does not fit their underlying beliefs. Including interaction effects between the usage of social media and Reddit and the respondent's party identification produced no significant results, however, suggesting that it may be explained by the type of news that one exposes themselves to on the sites rather than partisan or ideological reasoning.

Another factor to consider knowing what influences economic knowledge within individuals is the magnitude of the various effects. While we now know that factors such as education, age, income, and how much people pay attention to the news affects how much they know about the economy, we should also consider which of these factors are the strongest so that we can begin to understand if and how we can increase information in the public. At face value, I cannot directly compare the size of the effects of the various independent variables that I have

identified as significant as they are each measured differently. However, by standardizing each of the variables and discussing the effects in terms of changes in standard deviation rather than changes in units, I can directly compare the size of the effects. Thus, the use of standardization allows me to directly compare variables measured on different scales (Bring 1994; Gelman 2008; Schielzeth 2010). Standardized coefficients were estimated for the two full models shown in Tables 3.3 and 3.4. The results for each of the significant variables are shown in Table 3.5. This shows the results for the purely demographic model as well as the model that includes variables about attention and news source. In the Demographic model, Age appears to have the strongest effect on a person's economic knowledge. One standard deviation increase in a person's age leads to an increase of 0.242 standard deviations in economic knowledge. This suggests that age is the strongest predictor of what someone knows about the economy, likely due to a person's changing motivations from youth to adulthood in terms of raising a family, buy a home, investing, and saving for retirement. The variables with the next strongest magnitude effects are the Union Member and Education variables, respectively. When attention and source are considered, however, the magnitude of several of these variables shift dramatically. Age, while still a strong influencer, sees its effect nearly cut in half. One standard deviation increase in Age in the Attention model now only leads to a 0.125 standard deviation increase in knowledge. Instead, the variables leading to the largest standard deviation changes are those related to Reddit as a news source, education, and news attention. Reddit accounts for the largest change. One standard deviation increase in the Reddit as a source variable leads to a 0.158 standard deviation decrease in economic knowledge. The next strongest effect is education, leading to a 0.140 increase, and attention, which leads to a 0.134 standard deviation increase.

With the predictors of economic knowledge largely explored, I can shift attention to comparing how economic knowledge relates to general political knowledge, a more widely studied variable in the existing literature. As was stated before, the specialized nature of economic knowledge may mean that the possession of facts related to this specific domain may be more heavily influenced by socioeconomic factors than general knowledge, however, we may suspect that many of the same factors that influence one also influence the other. Comparing the two, it becomes immediately apparent that this is the case, as the correlation between the two measures is 0.56. To understand how similar factors may influence the two knowledge measures, models were re-estimated with general knowledge as the dependent variable in place of economic knowledge. Table 3.6 shows the results of two models using the same sets of independent variables as the full demographic and attention models presented for economic knowledge before. In general, each of the variables that successfully predicts economic knowledge also predicts general political knowledge. The only instance when this is not true is in the Attention Model, where income loses its significance after I consider the effects that attention and source have. Additionally, I find that some of the independent variables that failed to achieve significance in the economic models can do so in the general models. In the demographic model, ideology is positively related to economic knowledge. This means that the more conservative a person becomes, the more general knowledge they hold. Additionally, the dummy variable representing people that consider themselves to be in the upper class is negatively correlated with general knowledge. This is an interesting finding on its own, as there is no immediate reason that this should be. If more resources are meant to be associated with more knowledge, as is shown by the fact that income and education are both positively related to general knowledge, then it should also expect this variable to be positively related as well. This variable loses its

significance in the Attention model, however. In the Attention model, the only difference between general knowledge and economic knowledge in terms of significant factors comes from the fact that income loses its significance on general knowledge in the Attention model. It should be noted, however, that the variable still operates in the anticipated direction, and just misses significance at 0.15.

Knowing which variables affect both forms of knowledge and which only appear to affect one or the other, I can shift focus to dissecting the differences in how these variables affect the two different types of knowledge. If my hypothesis that economic knowledge is even more sensitive to the socioeconomic factors of a person than is political knowledge due to increasing complexity and decreasing exposure, then I should expect to find effects of greater magnitude for things like education and income on economic knowledge than I find for general political knowledge. Once again, to compare the effects of these variables which have been measured differently, standardization was used to place every variable on a common scale. This method does, of course, come with limitations, however. It cannot be certain that the sample of questions used to create the economic knowledge scale is any more or less representative of the economic facts that may constitute the population of knowledge in this domain as the sample of questions used to measure general political knowledge may be of the full population of political facts. Because of this, we must take these results with a grain of salt and use these results as a guide for and potential continued research into how different variables may affect the possession of these different types of knowledge differently.

Table 3.7 shows the results of four models. The two models on the left show the standardized effects of the demographic variables on both economic and general political knowledge. On the right are the standardized effects of the added attention and source variables.

Looking at the results from the demographic models, it is shown that a change of one standard deviation has a greater effect on general knowledge for almost every variable. That is, it appears that the factors that I have identified as significantly affecting knowledge have a greater magnitude effect on general knowledge than on economic knowledge. There are two exceptions, however; both education and income appear to have larger effects on economic knowledge than on general knowledge. For education, one standard deviation increase in the measure leads to an increase of 0.169 standard deviations in economic knowledge as opposed to an increase of 0.144 standard deviations for general knowledge. For income, one standard deviation increase in the measure leads to an increase of 0.130 standard deviations for economic knowledge as opposed to an increase of 0.117 standard deviations for general knowledge. When the attention and source variables are included this trend continues, with changes of 0.140 and 0.098 standard deviations for education and 0.105 and .080 standard deviations for income. Additionally, however, the effect of the lower-class variable appears to be larger in the economic knowledge model than in the general political knowledge model. Once again, this confirms what I had expected about the possession of economic knowledge. Socioeconomic status appears to have a strong effect on how much a person knows about the economy. Those with more education and income are better equipped to learn about the economy, leading them to more efficiently and effectively utilize this issue when making political decisions.

A Quick Comparison: From February 2019 to June 2019

The results from the February 2019 survey have provided valuable insight into the possession and spread of economic knowledge in the American public, however, I must acknowledge that this survey only represents knowledge at one point in time. As time goes on

and major economic events evolve, it is not unrealistic to believe that some variation may exist in the rates at which some people are able to correctly answer some questions. For instance, while many people may have become familiar with Federal Reserve Chairman Jerome Powell during his very public criticism from President Trump early in 2019, it could be expected that the number of people who can correctly identify him decreases as time departs from that dispute. However, there are other questions in which one should expect to find more stable responses over time, such as the causes of hyperinflation or the definition of a budget deficit.

To examine the stability of knowledge across two different time periods, the results from the February 2019 survey can be compared with a separate survey that was conducted four months later in June 2019. The June 2019 survey, which is explored more in-depth in Chapter Six, consisted of the same set of eight general political knowledge and fifteen economic knowledge questions that were included on the first survey and was completed by 466 respondents recruited through Amazon's Mechanical Turk recruitment website[7]. In general, the sample collected from MTurk was similar to the February 2019 sample, however, it should be noted that the June 2019 sample was a bit younger, a bit more educated, and a bit wealthier. Given the earlier findings that education and income are directly tied to the possession of economic knowledge, some expected patterns emerged in the data collected in the June 2019 sample.

As was expected given the differences in the sample, the average economic knowledge score for respondents in the June 2019 survey was slightly higher than those in the February 2019 survey, however, the results were still largely the same, with respondents failing to answer

[7] The strengths and weaknesses of samples collected via MTurk will be further explored in Chapter Six. For research on the usefulness of such samples, see Berinsky, Huber, and Lenz 2012, Paolacci and Chandler 2014, and Clifford, Jewell, and Waggoner 2015.

more than half of the economic knowledge questions asked correctly. In the original survey, the average number of questions answered correctly was 6.63, or 44.2%. In the second survey, the average number of questions answered correctly was 7.25, or 48.3%. Again, the numbers in the second survey are slightly higher, but that was to be expected with a sample that was more education and made more money than the original sample. In terms of the question by question difference, the results from both surveys are shown in Table 3.8. The percentage correct from the February and June surveys are both shown, as well as the difference between the two. In general, the difference represents a positive change from February to June of just a few percentage points, however, there are a few questions in which large differences appear. The June 2019 MTurk sample was much more likely to know the current unemployment rate and the minimum wage, while they were much less likely to know the status of the Dow Jones. Additionally, despite these differences, the most commonly correctly answered question, that of the minimum wage, and the most commonly incorrectly answered question, that of the growth in GDP, were the same in the two surveys. In general, however, the two surveys show generally similar results given the differences in the compositions of the two groups. While more studies need to be conducted over a longer period, this does give some credence to the idea that economic knowledge in America is generally stable.

Conclusion

In this chapter, I discussed the results of a nationally representative survey that was developed to test the economic knowledge of Americans. As was suspected, economic knowledge levels in the nation appear to be generally low, with respondent's only able to answer on average 44.2% of the questions asked. Of the fifteen questions on the test, only 4 were

answered with greater than 50% accuracy. Digging deeper into these findings, I show that great discrepancies exist between socioeconomic groups in terms of who knows how much. In general, those variables most directly linked to how a person interacts with the economy had the strongest effect on knowledge. This was, unsurprisingly, education and income, which appear to have stronger effects on a person's economic knowledge than on their general political knowledge. These results are once again visualized in Figures 3.6 and 3.7, where I show that the differences in average economic scores for those in the high and lowest quartiles of income, as well as for different levels of degree completion.

Taken all together, it is evident that this divide creates a class of citizens that are more suited to use their knowledge of the economy when making political decisions, something that could not only be affecting how they feel about various economically related issues, but also how they vote. While all people want to vote in their own best interest, we cannot be certain that all people are aware of the desires of certain politicians or the outcomes of certain policies, making this all but impossible for those on the lower end of the knowledge spectrum. Research on general political knowledge has long recognized that different classes of citizens exist causing large gaps in the abilities of citizens to adequately form opinions and votes, and with these results, we see that this is even more so the case for economic knowledge. Additionally, these results show that the changing environment that people have placed themselves in regarding how they gather their news is also having an effect of levels of knowledge. The increased use of social media and Reddit as a source of news has negatively affected what people know, a result that will likely only become more prevalent as the generations continue to shift towards those who were raised in a digital age. Having studied what people know and who knows the most, I can now shift the focus of this study to what the consequences of this gap really is. It is not

enough to just assume that economic knowledge gaps lead to people holding opinions other than they would otherwise, these theories must be actively explored.

Tables and Figures

Table 3.1: Percentage of Respondents Correctly Answering Economic Knowledge Questions

Question	Percent Correct
According to the U.S. Department of Labor, the current unemployment rate is:	44.44
What is the current federally mandated minimum wage?	63.46
According to the most recent estimates, the United States saw how much growth in GDP during the most recently completed quarter?	19.01
According to the most recent estimates, inflation (the Consumer Price Index) for all urban consumers has increased how much from one year ago?	45.68
As of today, one Euro could buy about how many U.S. Dollars?	43.21
As of today, what is the value of the Dow Jones Industrial Average?	37.04
According to the U.S. Department of the Treasury, how large was the national debt at the end of 2018?	39.75
Who is the current chair of the U.S. Federal Reserve?	36.54
Who is the current Secretary of the U.S. Department of the Treasury?	41.23
Who is the current Secretary of the U.S. Department of Labor?	36.54

Which body is responsible for controlling the money supply of the United States?	53.09
Which body is responsible for printing currency in the United States?	48.15
A country's government runs a budget deficit when which of the following occurs in a given year?	54.57
Hyperinflation is typically caused by:	51.85
The official unemployment rate understates the unemployment level in the economy because the official unemployment rate:	48.15

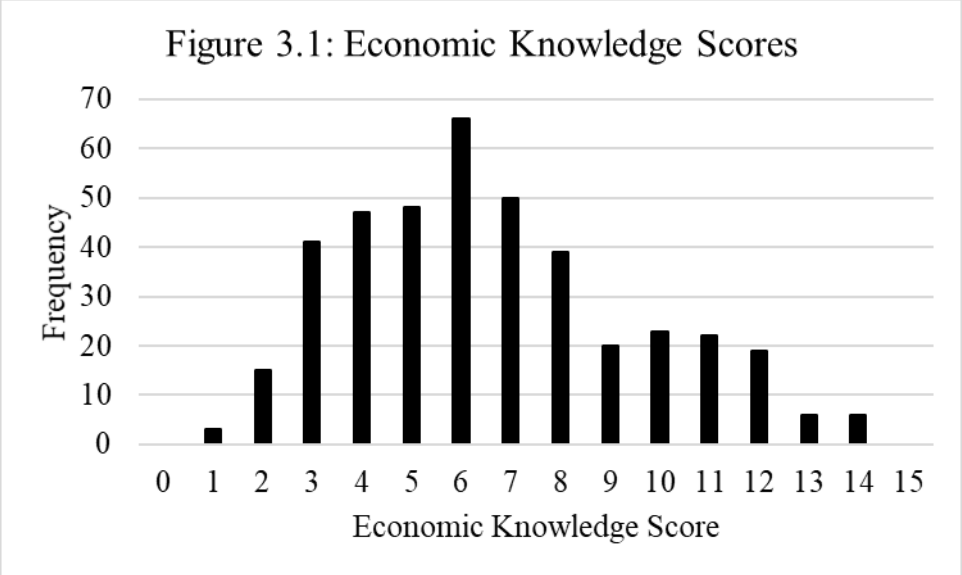

Table 3.2: Percentage of Respondents Correctly Answering General Political Questions

Question	Percent Correct
Mike Pence. What job or political office does he now hold?	77.53
Vladimir Putin. What job or political office does he now hold?	82.47
John Roberts. What job or political office does he now hold?	54.81
Do you happen to know which party currently has more members in the House of Representatives?	62.22
Do you happen to know which party currently has more members in the Senate?	61.98
How much of a majority is required for the U.S. Senate and House to override a presidential veto?	63.21
Whose responsibility is it to determine if a law is constitutional or not?	65.19
Would you say that one of the parties is more conservative than the other at the national level? Which party is more conservative?	64.94

Table 3.3: Demographic Effects on Economic Knowledge

	Model 1	Model 2	Model 3	Model 4
(Intercept)	3.096***	3.123***	3.701***	3.742***
	(0.719)	(0.732)	(0.804)	(0.797)
Age	0.047***	0.047***	0.046***	0.043***
	(0.009)	(0.009)	(0.009)	(0.009)
Female	-0.188	-0.190	-0.270	-0.288
	(0.286)	(0.286)	(0.289)	(0.287)
African-Americans	-0.254	-0.249	-0.286	-0.291
	(0.440)	(0.441)	(0.444)	(0.441)
Hispanic	-0.226	-0.225	-0.243	-0.337
	(0.414)	(0.415)	(0.416)	(0.414)
Education	0.280**	0.280**	0.278**	0.294**
	(0.093)	(0.093)	(0.094)	(0.094)
Income	0.112*	0.110*	0.079	0.109*
	(0.048)	(0.049)	(0.054)	(0.055)
Married	-0.475	-0.475	-0.461	-0.403
	(0.301)	(0.301)	(0.301)	(0.299)
Party Attachment	0.016	0.017	0.015	0.015
	(0.086)	(0.086)	(0.087)	(0.086)
Ideology	0.070	0.070	0.058	0.049
	(0.053)	(0.053)	(0.053)	(0.053)
Evangelical	-1.101***	-1.102***	-1.061***	-0.925**
	(0.289)	(0.290)	(0.290)	(0.292)
Unemployed		-0.150	-0.063	-0.215
		(0.726)	(0.728)	(0.724)
Lower Class			-0.894 +	-0.877 +
			(0.466)	(0.462)
Working Class			-0.325	-0.217
			(0.323)	(0.322)
Upper Class			-0.373	-0.549
			(0.592)	(0.590)
Union Member				-1.056**
				(0.382)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
R-squared	0.181	0.181	0.189	0.205
adj. R-squared	0.160	0.158	0.160	0.174
N	405	405	405	405

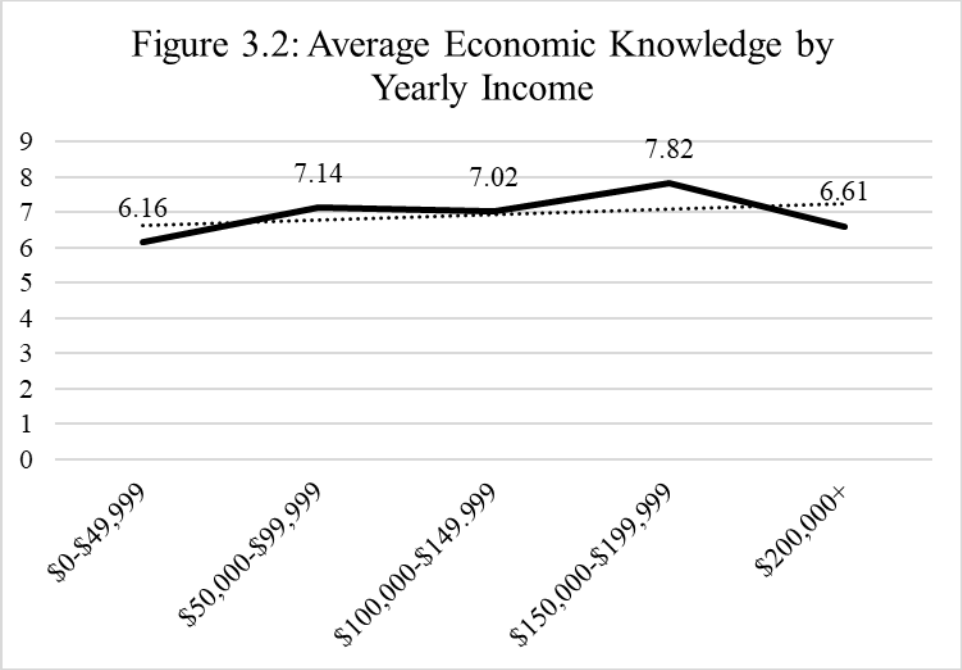
Figure 3.2: Average Economic Knowledge by Yearly Income
9
8
7
6
5
4
3
2
1
0
6.16
7.14
7.02
7.82
6.61
$0-$49,999
$50,000-$99,999
$100,000-$149,999
$150,000-$199,999
$200,000+

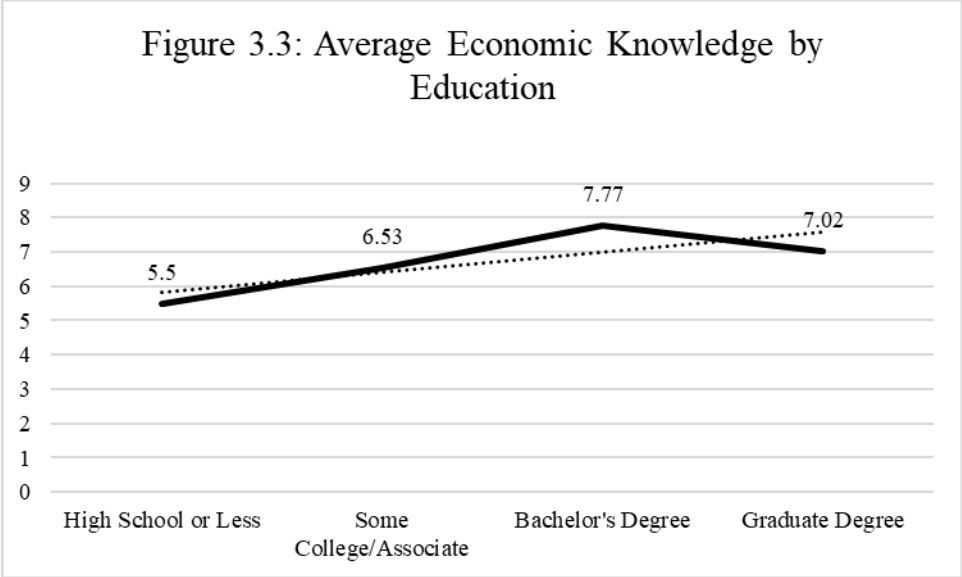
Figure 3.3: Average Economic Knowledge by Education
9
8
7
6
5
4
3
2
1
0
5.5
6.53
7.77
7.02
High School or Less
Some College/Associate
Bachelor's Degree
Graduate Degree

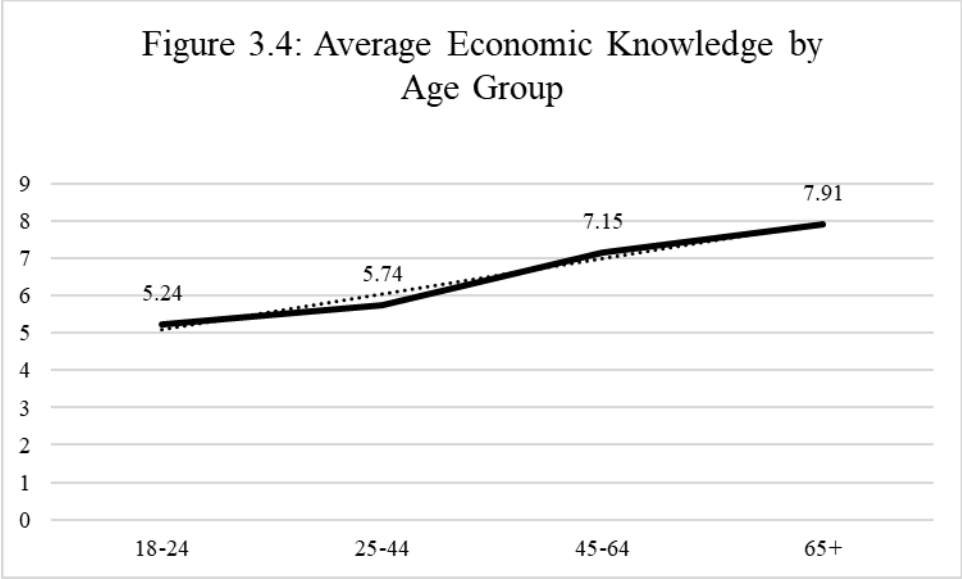
Figure 3.4: Average Economic Knowledge by Age Group
9
8
7
6
5
4
3
2
1
0
5.24
5.74
7.15
7.91
18-24
25-44
45-64
65+

Table 3.4: The Effect of News Attention and Source on Economic Knowledge

	Model 5	Model 6	Model 7
(Intercept)	2.972***	4.415***	4.887***
	(0.809)	(0.874)	(0.887)
Age	0.038***	0.025**	0.022*
	(0.009)	(0.009)	(0.009)
Female	-0.200	-0.097	-0.238
	(0.284)	(0.280)	(0.284)
African-American	-0.243	-0.310	-0.326
	(0.434)	(0.426)	(0.423)
Hispanic	-0.269	-0.299	-0.297
	(0.409)	(0.401)	(0.398)
Education	0.230*	0.254**	0.244**
	(0.094)	(0.093)	(0.092)
Income	0.089 +	0.076	0.088 +
	(0.054)	(0.053)	(0.053)
Married	-0.335	-0.133	-0.058
	(0.296)	(0.295)	(0.294)
Party Attachment	0.016	0.062	0.068
	(0.085)	(0.084)	(0.083)
Ideology	0.062	0.028	0.017
	(0.052)	(0.052)	(0.052)
Evangelical	-0.841**	-0.691*	-0.614*
	(0.289)	(0.286)	(0.286)
Lower Class	-0.875 +	-0.733	-0.725
	(0.454)	(0.447)	(0.444)
Working Class	-0.271	-0.209	-0.253
	(0.318)	(0.313)	(0.311)
Upper Class	-0.433	-0.160	-0.090
	(0.583)	(0.577)	(0.573)
Union Member	-1.020**	-0.848*	-0.729 +
	(0.376)	(0.371)	(0.372)
Pays Attention	0.221***	0.195**	0.185**
	(0.067)	(0.066)	(0.065)
Social Media as Source		-0.420***	-0.254*
		(0.106)	(0.124)
Reddit as Source			-0.343*
			(0.133)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001			
R-squared	0.227	0.257	0.269
adj. R-squared	0.197	0.226	0.237
N	405	405	405

Table 3.5: Standardized Effects on Economic Knowledge

	Standardized Coefficients	
	Demographic Model	Attention Model
(Intercept)	0.000	0.000
	(0.023)	(0.022)
Age	0.242***	0.125*
	(0.050)	(0.052)
Education	0.169**	0.140**
	(0.054)	(0.053)
Evangelical	-0.159**	-0.105*
	(0.050)	(0.049)
Income	0.130*	0.105 +
	(0.065)	(0.064)
Lower Class	-0.151 +	-0.124
	(0.079)	(0.076)
Union Member	-0.181**	-0.125 +
	(0.066)	(0.064)
Pays Attention		0.134**
		(0.048)
Social Media as Source		-0.126*
		(0.062)
Reddit as Source		-0.158*
		(0.061)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001		
R-squared	0.205	0.269
adj. R-squared	0.174	0.237
N	405	405

Figure 3.5: Scatterplot of Economic and General Knowledge

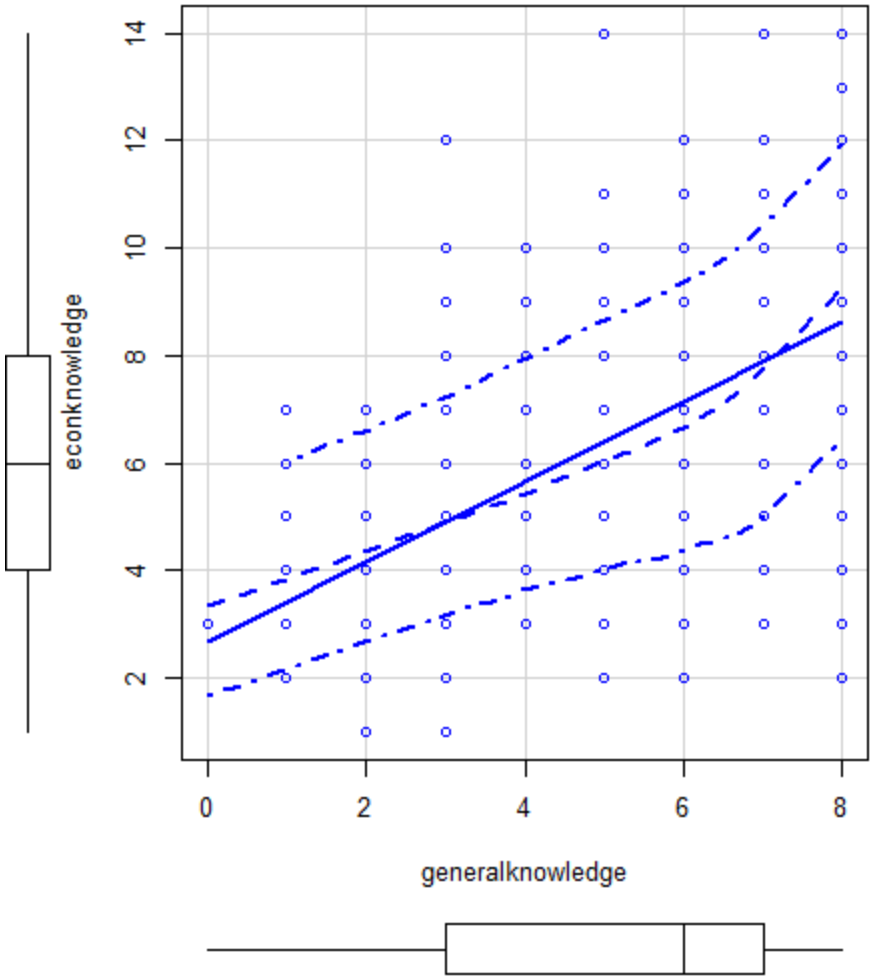

Table 3.6: Predictors of General Political Knowledge

	Demographic Model	Attention Model
(Intercept)	2.969***	4.297***
	(0.567)	(0.591)
Age	0.042***	0.019**
	(0.006)	(0.006)
Female	-0.036	-0.024
	(0.204)	(0.189)
African-American	-0.061	-0.065
	(0.313)	(0.282)
Hispanic	-0.331	-0.279
	(0.294)	(0.266)
Education	0.189**	0.129*
	(0.067)	(0.061)
Married	-0.524*	-0.144
	(0.213)	(0.196)
Party Attachment	-0.019	0.040
	(0.061)	(0.055)
Ideology	0.084*	0.047
	(0.038)	(0.035)
Evangelical	-1.025***	-0.685***
	(0.208)	(0.191)
Income	0.074 .	0.050
	(0.039)	(0.035)
Unemployed	0.466	
	(0.515)	
Lower Class	-0.704*	-0.514 .
	(0.328)	(0.296)
Working Class	-0.205	-0.263
	(0.229)	(0.207)
Upper Class	-0.762 +	-0.285
	(0.420)	(0.382)
Union Member	-0.987***	-0.649**
	(0.272)	(0.248)
Pays Attention		0.204***
		(0.044)
Social Media as Source		-0.207*
		(0.083)
Reddit as Source		-0.444***
		(0.089)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001		
R-squared	0.292	0.425
adj. R-squared	0.265	0.403
N	405	405

Table 3.7: Standardized Effects on Economic and General Political Knowledge

	Demographic Models		Attention Models	
	Economic	Political	Economic	Political
(Intercept)	0.000	-0.000	0.000	-0.000
	(0.023)	(0.021)	(0.022)	(0.019)
Age	0.242***	0.316***	0.125*	0.141**
	(0.050)	(0.047)	(0.052)	(0.046)
Female	-0.049	-0.008	-0.041	-0.005
	(0.049)	(0.046)	(0.049)	(0.043)
African-American	-0.050	-0.014	-0.056	-0.015
	(0.076)	(0.071)	(0.073)	(0.064)
Hispanic	-0.058	-0.075	-0.051	-0.064
	(0.071)	(0.067)	(0.068)	(0.060)
Education	0.169**	0.144**	0.140**	0.098*
	(0.054)	(0.051)	(0.053)	(0.047)
Married	-0.069	-0.119*	-0.010	-0.033
	(0.051)	(0.048)	(0.051)	(0.045)
Party Attachment	0.011	-0.018	0.047	0.037
	(0.060)	(0.056)	(0.058)	(0.051)
Ideology	0.052	0.119*	0.018	0.067
	(0.057)	(0.054)	(0.056)	(0.049)
Evangelical	-0.159**	-0.233***	-0.105*	-0.156***
	(0.050)	(0.047)	(0.049)	(0.043)
Income	0.130*	0.117 +	0.105 +	0.080
	(0.065)	(0.062)	(0.064)	(0.056)
Unemployed	-0.037	0.106		
	(0.124)	(0.117)		
Lower Class	-0.151 +	-0.160*	-0.124	-0.117 +
	(0.079)	(0.075)	(0.076)	(0.067)
Working Class	-0.037	-0.047	-0.043	-0.060
	(0.055)	(0.052)	(0.053)	(0.047)
Upper Class	-0.094	-0.174 +	-0.015	-0.065
	(0.101)	(0.096)	(0.098)	(0.087)
Union Member	-0.181**	-0.225***	-0.125 +	-0.148**
	(0.066)	(0.062)	(0.064)	(0.056)
Pays Attention			0.134**	0.197***
			(0.048)	(0.042)
Social Media as Source			-0.126*	-0.136*
			(0.062)	(0.055)
Reddit as Source			-0.158*	-0.271***
			(0.061)	(0.054)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
R-squared	0.205	0.292	0.269	0.428
adj. R-squared	0.174	0.265	0.237	0.403
N	405	405	405	405

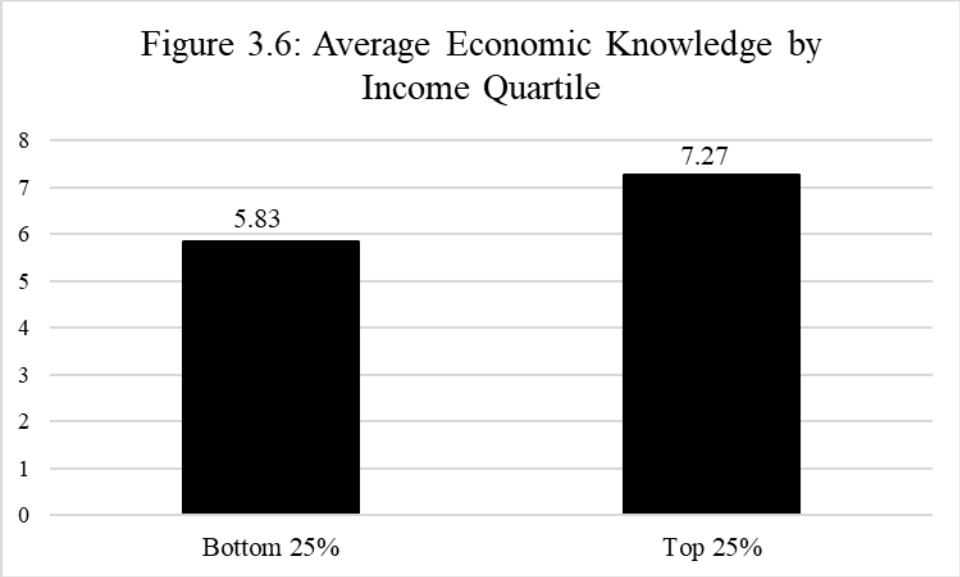
Figure 3.6: Average Economic Knowledge by Income Quartile
8
7
6
5
4
3
2
1
0
5.83
7.27
Bottom 25%
Top 25%

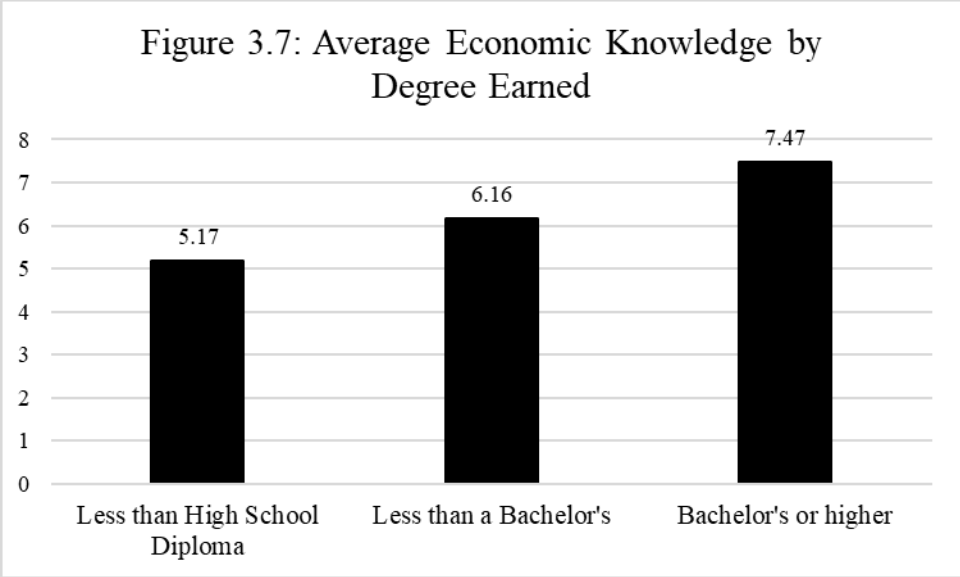
Figure 3.7: Average Economic Knowledge by Degree Earned
8
7
6
5
4
3
2
1
0
5.17
6.16
7.47
Less than High School Diploma
Less than a Bachelor's
Bachelor's or higher

Table 3.8: Percentage of Respondents Correctly Answering Economic Knowledge Questions, February and June 2019

Question	February	June	Change
According to the U.S. Department of Labor, the current unemployment rate is:	44.44	58.37	+13.93
What is the current federally mandated minimum wage?	63.46	82.4	+18.94
According to the most recent estimates, the United States saw how much growth in GDP during the most recently completed quarter?	19.01	18.45	-0.56
According to the most recent estimates, inflation (the Consumer Price Index) for all urban consumers has increased how much from one year ago?	45.68	50.00	+4.32
As of today, one Euro could buy about how many U.S. Dollars?	43.21	46.78	+3.57
As of today, what is the value of the Dow Jones Industrial Average?	37.04	20.39	-16.65
According to the U.S. Department of the Treasury, how large was the national debt at the end of 2018?	39.75	32.4	-7.35
Who is the current chair of the U.S. Federal Reserve?	36.54	40.77	+4.23
Who is the current Secretary of the U.S. Department of the Treasury?	41.23	50.43	+9.2
Who is the current Secretary of the U.S. Department of Labor?	36.54	41.2	+4.66
Which body is responsible for controlling the money supply of the United States?	53.09	56.67	+3.58

Which body is responsible for printing currency in the United States?	48.15	49.14	+0.99
A country's government runs a budget deficit when which of the following occurs in a given year?	54.57	62.02	+7.45
Hyperinflation is typically caused by:	51.85	61.37	+9.52
The official unemployment rate understates the unemployment level in the economy because the official unemployment rate:	48.15	54.7	+6.55

Chapter 4: The Effect of Economic Knowledge on Public Opinion

I have shown that economic knowledge is low and distributed generally along socioeconomic lines, but what does this really mean for democracy? It is one thing for us to know that people have different levels of knowledge about the issue, but it does not mean much if this gap does not translate into actual differences in how people think. There is no shortage of research that shows the differences in general political knowledge leads people to hold opinions different than they would otherwise, and we can suspect that this is also the case for economic knowledge, especially on economic issues. For instance, while the impact of immigrants on the economy has been debated in the public eye for some time now, what is the likelihood that many people understand the underlying research and economic arguments? The same goes for issues such as international trade, where a broad consensus of economists agree on the effects of trade, and yet a large portion of the population (as well as some politicians) seem to be pushing against the experts.

This chapter begins the exploration of the consequences of economic knowledge by studying how it affects opinion on a range of economically related issues. Broadly, these issues include topics such as immigration, inequality, and government intervention. At heart is an issue of democratic accountability. If we expect people to vote in their own best interest, then we should expect them to be able to know what is going on in the world. Previous research on political knowledge has shown a large disconnect between how people think on issues and how they would think were they fully informed on the issue. Given what I have shown, the same may be expected to occur for economic issues. The results presented here largely confirm that belief and show that economic knowledge has a strong effect on how people feel on many issues and that their opinions would be different were they fully informed of economic issues when forming

their opinion. This is done in two parts. First, models are developed that show the significance that economic knowledge has on the battery of economic opinion questions that were asked. After these models have been examined I then turn towards examining how differences in economic knowledge shift the likelihood of a person supporting specific economic policies or ideals. This is somewhat similar to previous research that has simulated 'fully informed' opinion using general political knowledge, such as Bartels (1996) and Althaus (1998). Altogether, these results present the first evidence of the consequences of low economic knowledge, which are explored further in Chapter 5's exploration of how economic knowledge changes how we evaluate the president.

How What We Know Affects What We Think

It is no secret that the level of political knowledge a person possesses affects how they feel on certain issues. This has been shown time and time again, with several studies showing not only large differences in opinions between those with the highest levels of knowledge and those with the lowest but also that there would be significant changes in a person's opinion were somehow to become fully politically informed (Bartels 1996; Delli Carpini and Keeter 1996; Althaus 1998). The normative implications of these findings are clear; if we expect our democracy to hold politicians accountable, then it is troubling to find opinions that vary so differently based solely upon how much a person knows. This creates obvious knowledge class divisions in a democracy, where some people are more well-suited to expressing their thoughts and opinions than others, separated along knowledge lines, which itself is separated along socioeconomic lines. Two of the most direct studies of how knowledge directly changes opinions come from Bartels (1996) and Althaus (1998). In both studies, opinions were evaluated at actual

levels of knowledge, finding a clear relationship between the level of knowledge that a person has and their thoughts on issues. Opinions were then simulated in both cases, with Bartels showing that vote choices would differ and Althaus showing that opinions on most issues would shift by over 7 percentage points were the populace fully informed. Even more worrisome is the divide between those with policy specific information and those without. The specifics surrounding each issue should also help shape how a person feels on those topics, however, issue-specific knowledge tends to be even more sparsely spread throughout society, once again favoring those with more socioeconomic resources. The low propensity of policy-specific information in the public manifests itself in the form of opinions on many issues that are vastly different than they would be if people were to have more policy-specific information (Gilens 2001). It is clear the role that information plays in the opinion formation process. It shapes the way people look at issues and the considerations they use to form their judgments. As such, the fact that many Americans seem to be operating at such low levels of knowledge paints a dire picture for a democracy that desires accountability. If people are not forming opinions that would reflect how they would feel were they fully informed, then what does that say about the citizen's ability to meaningfully cast a vote? While some may argue that people can and do latch on to heuristics to overcome some of these shortcomings, there is little denying that lack of knowledge clearly has an impact on the political judgment formation process.

The same way we may expect political knowledge to shape how people feel on many political issues, we should also anticipate economic knowledge to do the same. We also might expect to find greater differences between low knowledge opinion and high knowledge opinion given the complexities of certain economic topics and the general lack of knowledge surrounding them. As economic knowledge measures what people know about the long term and current

factors affecting economic affairs, we must believe that the possession of this knowledge directly affects opinion on issues related to the economy. For instance, large debates are currently being held in the public discourse surrounding the impact of immigrants on native workers, the impact of international trade agreements on prices and wages, or what the role of the government should be in regulating institutions such as large investment banks. However, given what has been shown about economic knowledge, these opinions are likely being formed with little regard to actual economic knowledge, and instead are just reflecting partisan bickering that has reached the masses. This suggests that, in many cases, we would likely find that fully informed people would likely hold opinions on several economic issues vastly different than those they are expressing now.

The specific questions that I will explore are not new topics to political science researchers. These questions cover a wide range of topics related to the economy, such as immigration, inequality and opportunity, trade, and government intervention. These topics have each been widely studied in their own regard to determine the various factors that impact the public's attitudes towards them. Immigration, for instance, has been shown to be strongly related to several economic factors, such as the skill level of the person being probed, the perception of economic costs imposed by immigrants, and general feelings about the overall state of the economy (Citrin et al. 1997; Scheve and Slaughter 2001a; Brader, Valentino, and Suhay 2008). The role of the government in regulating business appears to suffer from the fact that many people over-estimate the costs associated with regulation (Johnson and Finkel 2016). Feelings towards trade have been found to be directly linked to a person's education and their sector of employment (Sheve and Slaughter 2001b; Hainmueller and Hiscox 2006). The known factors

affecting these sectors will be explored individually in the discussion of the impact that economic knowledge has on them.

The Effect of Economic Knowledge on Public Opinion

To estimate the effect that economic knowledge has on these and other questions, a series of logit models were estimated testing the effects of several demographic and socioeconomic variables, as well as the effect of the economic knowledge scale that was developed in Chapter 3. The dependent variables in these models were comprised of responses to a series of survey questions borrowed from other national surveys, such as the American National Election Studies. Thirteen models were estimated in total, with economic knowledge showing a significant effect on seven. These results are shown in Tables 4.1 and 4.2.

The first two models estimate the effect of the selected variables on issues related to immigration. The first model shows the effect on the belief that immigrants likely take jobs from native workers, while the second shows the effect on the belief that immigrant numbers should be increased. Given the intensely partisan nature of the current immigration debate in the United States, it is not surprising to find party attachment variables to be significantly correlated in both models. As one's attachment to the Republican Party increases, I unsurprisingly find that the belief that immigrants take jobs increases, and the belief that we should allow more immigrants into the country decreases. Additionally, ideology also has a significant effect on the immigrant and jobs question, with a person being more likely to believe that they take jobs as they become more conservative. Another variable of interest, that measuring the Evangelical identity of a person, also shows a significant effect on both models, increasing both the thought that immigrants take jobs and the belief that we should allow more immigrants into the country.

Next, I turn to the economic knowledge effect. As was already stated before, feelings towards immigrants have already been shown to be directly tied to several economic factors. Because of this, I expect to also find that economic knowledge has an impact on feelings towards immigrants, as knowledge is directly related to how well people may perceive these factors that influence their thoughts on immigration. Looking at both models, I find that economic knowledge has a significant effect in just one of the two immigration models, the one regarding immigrants and jobs. As a person's knowledge of the economy increases, the likelihood that they believe immigrants take jobs from native workers decreases. This belief falls largely in line with the consensus of researchers, who believe that the overall impact of immigration on the employment levels of native-born workers is low (Malchow-Moller, Munch, and Skaksen 2009; National Academies of Sciences, Engineering, and Medicine 2017). Economic knowledge does not appear to have an effect, however, on feelings towards immigration levels. This may in part be due to concerns related to immigration that are not directly economic in nature. Were I to measure knowledge of other policy domains different results may materialize. For instance, as knowledge regarding crime statistics increases, I may find that people are more likely to state support for increasing immigration levels, given research that shows that immigrants are actually less likely to commit crimes than are native residents (Nowrasteh 2018).

The next set of models measures attitudes towards issues of income inequality. Specifically, the variables are measured to indicate where a person believes inequality has grown over the past twenty years and whether the government should actively work to reduce this inequality. The increasing role of inequality as a topic of debate in political discourse has also led to an increase in research surrounding what people think about the issue and why. While Americans appear to be largely aware of the gap in incomes between those with the most and

those with the least, there do appear to be significant ideological divisions between those on the left and those on the right about how much of a problem this actually is and what should be done about it, if anything at all (Osberg and Smeeding 2006; Shaw and Gaffey 2012). Kelly and Enns (2010), for instance, found that increasing inequality led to increasing conservative sentiment, and thus, increasing inequality via the continuation of policies that favor the accumulation of wealth for those at the top. Looking at the results from the two models surrounding income inequality, previous findings surrounding the impact of party and ideology once again materialize in the models. Increasing attachment to the Republican Party and increasing conservatism both have negative effects on the belief that inequality has grown larger, while the same is true for ideology and the belief that the government should interfere to correct this. Looking at the effects of economic knowledge on these two issues, the results show that, while there is no relationship between knowledge and the perception of change in inequality, increasing economic knowledge is related to an increased likelihood of supporting the idea that the government should act to reduce inequality. That is, the more people know about economic issues, the more they believe that the government should take active steps to reduce the amount of inequality in society. Another model was also created to measure the effect of knowledge on a related issue to income equality- the gender pay gap. Interestingly, no effect was found for gender, meaning that females were not significantly more or less likely to support equal pay than men. Additionally, no party or ideological effect was detected as well. However, I do find that increased knowledge of the economy increases the likelihood that a person supports laws requiring equal pay between men and women.

The next set of models regard the role of the government in regulating. Specifically, these variables were coded to measure whether a person believed we needed more bank regulation and

whether they stated we needed that a strong government was needed to handle economic problems rather than allowing the free market to handle them. While I once again find the anticipated ideological effects, that conservatives are less likely to support more bank regulation and are less likely to express a desire for a strong government role in the economy, I do not find any significant effects for economic knowledge on these issues. While this is somewhat surprising, it does conform to prior research that has shown that support for the free enterprise system is among the strongest core values on which many opinions are formed in America (McClosky and Zaller 1984; Feldman 1988).

Table 4.2 presents the results from the final six models. The first two models from this table deal with issues surrounding free trade. Trade was at the center of the 2016 Presidential Election, and President Trump has made it a central issue during his administration, engaging in renegotiations of existing trade deals and imposing tariffs on some imports. Due to this, it has been an issue discussed at length in news coverage for several years at this point, suggesting a role for knowledge in how people feel about this issue. Due to its prevalence in the current debate, it might be expected that people who know more about the economy are able to form better judgments about the impact that trade has, judgments that are likely less moved by political debate than those who are less knowledgeable. Additionally, a shift has occurred somewhat recently in research regarding what impacts people's feelings towards trade. Initial studies argued that support for trade policies was directly related to the skills of the person being surveyed; the more skills they possessed the more they support trade policies (Mayda and Rodrik 2005). Following studies were more mixed, with some showing that trade policy is driven not so much by self-interest, but rather by sociotropic feelings about the nation's economy (Mansfield and Mutz 2009). Even more recent research has found support for both camps; people tended to

be more likely to express both more altruistic and more self-serving opinions after being given information about the winners and losers of trade, however, the more selfish behavior tended to outweigh the other (Rho and Tomz 2017). As such, significant room exists to suggest that economic knowledge may be a significant factor in how people feel about trade. As is evident in the models, party attachment significantly influences how a person feels on both trade questions, however, the results of the two are somewhat in conflict. On the first question, about whether trade should be limited, I find that the party attachment variable largely mirrors the sentiment of the current Republican administration. As a person's attachment to the Republican Party increases, so too does the belief that trade should be limited. However, increasing attachment to the Republican Party also shows to increase the likelihood that a person believes that the overall impact of trade is good. This is an interesting question, and deeper studies into the role of partisanship in these feelings may be warranted. Economic knowledge, however, is significant in just one of the two models. Increasing levels of economic knowledge positively impact the likelihood that a person will believe trade is good. This is likely due to increased knowledge of the actual effects of trade, as well as some degree of self-interest. While education was not found to be significant on its own, we do know that those with more economic knowledge are those with more resources, suggesting a lack of concern about potential job losses themselves. Another separate, but related, question that was studied was that of outsourcing. The likelihood that a person states that the government should discourage outsourcing increased along with economic knowledge. This is a somewhat surprising finding given the finding that showed increased belief in the idea that trade was good. Education, however, did have a significant negative effect. The more educated a person is, the less likely they are to believe that the government should discourage outsourcing. This finding does largely fall in line with existing work in the area,

which has shown that feelings towards outsourcing are largely determined by the replaceability of the worker (Owen and Johnston 2017).

The next set of questions studied surrounded perceptions of the United States' role and position globally. These questions, while not directly related to economic policy per se, reflect the feelings of globalization or isolationism within voters. For many supporting more isolationist policies internationally, the battle cry of 'America first' has been used as a justification for withdrawing from the international stage. In the minds of proponents of these sort of policies, the economic performance of the United States is of foremost importance, and as such all efforts should be focused on continuing to strengthen ourselves at home or risk losing our position as the world's leading economic power. These variables are coded so that the independent variables affect whether a person believes that the United States' position in the world has grown stronger over the past year and whether a person believes that the United States should stay home rather than intervening in the affairs of other countries. Once again, party attachment shows itself as a significant factor, this time on the question regarding the U.S. position in the world. The stronger the attachment to the Republican Party, the more likely a person is to believe that the position has grown stronger. Given the fact that the current president is a Republican, it should not be surprising to find that members of his own party feel better about world affairs. A similar effect was found for ideology, however, neither of these factors influenced the question of US intervention. Economic knowledge appears to have no effect on feelings regarding the U.S.'s position in the world, however, significant effects were found for the intervention question. Increasing levels of economic knowledge decreased the likelihood that a person would state that we should stay out of the affairs of other nations.

Finally, the last model estimates the effect of economic knowledge on one of the oldest questions in political science. For decades, researchers have included a question on their surveys asking whether they believe the nation is headed in the right direction or has gotten off on the wrong track. At heart, this is a question of confidence in the direction of the country. If people feel good about current affairs, I expect them to say that the nation is headed in the right direction, if they feel bad, I expect them to say that the nation is off on the wrong tracker. Once again, looking through the results effects are shown that are not unexpected. Republicans and conservatives are more likely to state that they believe the nation is headed in the right direction. Again, under a Republican administration, we should expect to see this confidence from their own party members. Regarding the question of economic knowledge, however, the opposite effect is found. The more economic knowledge a person has, the less likely they are to believe that the nation is headed in the right direction. The more a person knows about the economy, the worse they feel about current affairs in the country and the less confidence they have. This is an interesting finding, in that current economic conditions at the time of the survey were generally good. However, while economic performance was generally good at the time of the survey, there were emerging reports of possible signs of future economic distress that more informed respondents may have been more aware of. Additionally, as we know that the more economically knowledgeable are more aware generally, this may also be reflecting an unease with other current political affairs, such as the high-profile investigations into possible Russian interference in the 2016 Presidential election.

In all, significant effects from economic knowledge occurred on seven of the thirteen dependent variables that models were created for. It is clear that economic knowledge has a significant effect on how people form evaluations on many topics, especially (and

unsurprisingly) those most related to actual economic issues. These results are both promising and distressing. On the positive, these results show that those with more economic knowledge tend to reflect the feelings of economic experts, meaning that people can be meaningfully educated and informed on economic issues. These results also conform to prior results into the effect of general political knowledge, which has shown similar effects on other issues. The obvious negatives, however, come from the overall lack of economic knowledge in the public. The average American is not very well versed on economic issues, and thus they are likely holding opinions that are vastly different than they would were they fully informed. This has dire consequences. Not only are people expressing opinions on issues that are different than they might be otherwise, their actual economic behavior may also be altered as well. Uninformed consumers may react in different ways than their more informed counterparts, leading to changes in their own economic behavior and possibly even increasing unnecessary precautionary behavior.

Examining the Difference Between Fully Informed and Uninformed Opinions

As previous studies have shown, issues on which opinions are impacted by a person's level of knowledge can significantly alter when individuals are fully informed. The same may be true for the economic opinions for which I have examined significant knowledge effects. For instance, how large is the difference in the likelihood that a person would believe that immigrants take jobs away from native workers between those at the bottom end of the knowledge scale and those at the top? Althaus (1998) and Bartels (1996) both have shown how general knowledge affects opinions, and Gilens (2001) has demonstrated the power of policy-specific knowledge. As such, I must examine how economic specific information shifts opinion

on these economic issues. To estimate the effect of different levels of economic knowledge predicted probabilities were calculated using the seven models for which significant effects were found for economic knowledge. These probabilities show the likelihood of a person answering in the affirmative for each of the dependent variables given different levels of knowledge. That is, for each increasing level of knowledge, I can see what my model predicts the likelihood of a respondent having a certain opinion is. In addition to calculating the probabilities across the knowledge scale, probabilities were also calculated holding economic knowledge at its mean, 6.63. The calculated predicted probabilities for each knowledge level are shown in Table 4.2.

The first results show the predicted probabilities for a person stating that they believe that immigrants take jobs from native workers. As was stated before, research on the effects of immigration has shown there to be little to no effect on the jobs of native workers, which is reflected in the results from the initial model on this question. At the lowest end of the knowledge scale, a person has an 85% likelihood to believe that immigrants take jobs. At the mean level of knowledge, this drops to 75%, still an overwhelming majority. Finally, at the highest possible level of economic knowledge, the likelihood of having this opinion drops to 57%, just over a majority. Overall, there is a drop of 28% from the lowest end of the spectrum to the highest, and a change of 18% from the mean to the hypothetical fully informed. This large shift in likelihood shows that knowledge can have an enormous effect on how people think about immigrants, with more knowledge shifting individuals towards the idea that they do not take jobs away from workers. However, it should be noted that even at the highest levels of knowledge, the likelihood to believe this is slightly over 50%. Even when fully informed, it is more likely than not that a person will hold this belief.

Next, I calculate the predicted probabilities for the government and inequality model. These results show the likelihood of a person stating that they believe that the government should take active steps to reduce inequality. These results show changes that are perhaps more meaningful than in the previous model. At the low end of the knowledge spectrum, the likelihood of supporting the government acting to reduce inequality comes in at just 34%. At the mean level of knowledge, this increases by 11% to 45%, meaning that even at the average level of knowledge it is less likely for a person to support this type of action than it is likely they would. However, at the highest levels of knowledge there is a shift. When a person is fully informed economically, the likelihood that they would support government action to reduce inequality becomes more likely than unlikely, at 61%. This means that when a person is fully informed of economic issues, they will be more likely than not to support government action in this area. Overall, shifting from the lowest end of the spectrum to the highest increases the likelihood of support by about 27%, and the shift from the mean level to the highest level increases it by 16%.

The next set of predicted probabilities show the change in the likelihood that a person supports the government requiring equal pay for men and women. In all instances, it is more likely that a person would support this policy than not, however, the shift in change is still large. At the low end of the knowledge scale, there is a 64% likelihood that a person supports. This increases by 16% when shifted to the mean, to 80%. Finally, at the highest levels of economic knowledge, there is an astounding 92% likelihood that a person would support requiring equal pay between men and women. While it was always more likely that a person would support equal pay than not, the shift to 92% at the top levels of knowledge is still substantial. Overall, the shift from the lowest end to the highest leads to an increase in likely support for this measure by

28%. The shift from the mean to the top accounts for an increase of 12%. Overall, the results from this set of predicted probabilities are promising, suggesting that people of all knowledge levels tend toward equality among the genders regarding levels of compensation.

The next set of predicted probabilities show the change in likelihood regarding two of the questions surrounding trade, the first being whether trade has been overall good, and the second regarding whether the government should discourage outsourcing. Regarding the overall effect of trade, there is once again a shift from not likely to likely to agree with this idea. This is not surprising given what we know about opinion on trade issues and the possession of economic knowledge. At the low end of the knowledge spectrum, there is a 37% likelihood that a person believes trade has been good overall. At the mean level of economic knowledge, a shift is observed from unlikely to agree to likely to agree. This increase is 18% to a 55% likelihood that a person would believe trade has been good. Another large shift occurs from the median to the highest possible levels of knowledge. When a person is fully informed economically, there is a 76% likelihood that they believe trade has been good overall. Again, looking at the change between the bottom levels of knowledge to the highest, there is a change of 39%. That is, there is a 39% difference in the likelihood that a person believes that trade is good between those who know nothing about the economy and those who have what we have deemed to be complete knowledge. From the mean to the highest end, there is a shift of 21%. This shift is quite large, and likely reflects the complex nature of the debate surrounding what trade has done and how this has affected the nation. The debate is nuanced and may be confusing for those with low knowledge of the economy.

Finally are the predicted probabilities for the question regarding the models measuring feelings toward international intervention and the direction of the country. On the question of if

the United States should stay home or involve itself in the affairs of foreign nations, there exists one of the largest gaps between the most and least informed. For those with no economic information, there is a 62% likelihood that they will state that the United States should stay home. At the mean level of information, however, this drops by 21% to a 41% likelihood. Finally, at the highest levels of information, there is just a 19% likelihood that a person will state that the United States should stay home. From the lowest level of knowledge to the highest levels, there is an overall shift in likelihood of 43% and a change from the mean to the highest levels of 22%. This shows that those on the lower end of the economic knowledge scale are more likely to want the United States to involve itself in the problems facing foreign nations, while those on the higher are likely to support it. This may be due to a feeling that the United States should 'take care of its own,' not understanding the possible benefits of maintaining stable relationships with foreign nations. On the question of whether the country is going in the right direction or is off on the wrong track, however, a less dramatic change is observed between the two groups, with both remaining under a 50% likelihood of saying the country is going in the right direction. At the lowest levels of knowledge, there is a 47% likelihood of having the opinion that the nation is going in the right direction. The shift to the mean value drops by 13% to 34% and drops another 14% when going from the mean to the highest levels of knowledge, coming is at 20%. Overall, the difference between those with the lowest levels of knowledge and those with the most is 27%.

Looking at the overall results, it is obvious that economic knowledge can significantly alter how a person feels about a certain issue. Those with the lowest levels of knowledge and those with the highest express vastly different opinions on many issues, with many even shifting from an overall likelihood of supporting/agreeing with something to an overall unlikelihood.

This suggests that there may be even more issues for which the public opinion that is being expressed by the public in the polls which we see talked about in the media are not reflecting what would be the case in a 'perfect' fully informed world. On average, the shift from lowest knowledge to highest knowledge changes likelihood in one direction or the other by 32%. The largest difference was observed on the question regarding intervention or isolationism. Even when just shifting from average levels of knowledge to the highest levels there is a significant change in these numbers. Here, there is an average change of 17%, again with the intervention or isolationism question showing the largest change.

Economic Knowledge and Economic Perceptions

In addition to changes in general policy positions, the role that economic knowledge plays in how we perceive changes in actual economic performance must be considered. In general, we as a whole would hope that economic perceptions would be based on changes in real economic numbers or trends, that is, if the country saw larger than expected economic growth or a dip in unemployment over the past year, then we would hope that people would recognize this as having been positive in retrospect. Conversely, if things turned south or there was an unexpected rise in unemployment or inflation, we would hope that they would recognize this in the opposite manner. Prospective economic evaluations are something that may even more greatly be affected by how much a person knows about economics. Future expectations are forecasts of future performance based upon what we know today, thus recognizing what current trends mean for future performance should be important. The more likely scenario, however, is that economic knowledge is not a large driver of any of these perceptions. Instead, I expect to find that things such as our partisan attachment are larger drivers of these perceptions than what

we know. So, rather than finding that knowledge is significantly related to our retrospective positive or negative assessments of the economy, I may instead find that party attachment dictates how we feel. So, a Democrat asked about the previous year under a Republican president would be more likely to say that things have gotten worse despite any knowledge of actual economic change, while a Republican would likely state that things had gotten better under the same circumstances.

To test for the possibility that economic knowledge determines how we perceive past and future economic change, four more logistic models were created that estimated the effects of various measures on economic perception variables. The dependent variables on these models measure whether the respondent stated they believed the economy had gotten better in the previous year, had gotten worse in the last year, would get better in the coming year, or would get worse in the coming year. These results, shown in Table 4.4, show that economic knowledge generally does not appear to be the main driver of economic perceptions. In just one of the four models does economic knowledge appear to have any effect on perceptions, in the prospective-worse model. This suggests that, when a person is asked to evaluate the performance of the economy over the previous year, they are not pulling from what they know about the economy to form this evaluation. Additionally, when looking forward, economic knowledge only seems to factor into the decision-making calculus for those who believe the economy will become worse in the coming year. This may be due to the complex nature of the economic signals that were being discussed in the public around the time of the survey. Talks of indicators such as an inverted yield curve which may predict future economic recession had been in the news around the time of this survey, an indicator that may only be internalized by those who already know quite a bit about the economy.

One variable that shows significant effects in each of the four models, however, is the Party Attachment variable. In each model, an increasing attachment to the Republican Party shows significant effects in the anticipated direction given current leadership. Strong attachment with the Republican Party is associated with an increased likelihood to view both positive retrospective and prospective economic perceptions and a decreased likelihood to hold negative views of economic performance over the same time frames. Taken altogether, these models clearly show that economic perceptions do not appear to be driven by real economic performance or knowledge, but instead seem to be influenced by our pre-existing partisan attachments. If our own party is in power then we tend to view the previous economy as doing better, while if the opposition party is in power we tend to view it more negatively, regardless of real economic performance. When looking forward, our party attachment shows the same effect. These effects are illustrated further in Table 4.5, which shows the predicted probabilities of possessing the listed retrospective or prospective perception given a person's party attachment. Here, the difference between those who identify as 'Strong Democrats' (coded as 1 in the table) and those who identify as 'Strong Republicans' (coded as 7), is clearly visible. Given the existing economic research that shows how perceptions of economic performance can turn into economic reality, to find that so much of how we view past and future economic performance is based not in what we know of the matter but instead on our own partisanship presents serious dilemmas for policymakers trying to understand how to deal with economic downturns in the future. If the solution for half of the nation is to put their party in charge, something that will only upset the other half of the nation, how can effective policy be crafted? If the purpose of many policies is to simply restore confidence, is that even possible for those with a strong attachment to the out of power party?

Conclusion

In this chapter, I demonstrate ways in which economic knowledge differences materialize in the public. Generally low levels of economic knowledge lead people to express opinions that are different than they would were they fully informed on economic issues. These results, while not surprising, are troubling. As was the case with Delli Carpini and Keeter's analysis, I find that there appear to be separate knowledge classes in America, with differing abilities to form meaningful opinions in this policy realm. Those who have even average levels of knowledge express opinions that are clearly different than they might were they to be more informed on these issues. This raises several concerns for the ability of citizens to hold their government accountable or to express preferences on what the government should at the ballot box. If the idea is accepted that public opinion can cause shifts in actual public policy (Stimson, MacKuen, and Erikson 1995), then one must worry about what this gap means for economic policy. Citizens are forming evaluations about issues that may be counter to their own best interests, possibly even causing a self-reinforcing cycle in which the very economic problems they think they are addressing by sending certain politicians to Washington are being created by them in one way or another. While economic knowledge appears to be driving opinion on various issues, there is one area where little to no effect has been found and may be just as troubling. The issue of economic perceptions, that is, how people view the state of the economy, is one area in which we may hope to find that people are basing their beliefs on actual economic knowledge and data. Instead, I find that the most consistent predictor of perceptions, both retrospective and prospective, and negative and positive, is party attachment. That is, we tend to view the

economy, like so many other issues, through our partisan lenses rather than through our analytical lenses.

This brings me to the next part of my analysis, that of the role that economic knowledge has in how we assess the most prominent politician in the entire United States, the President. Existing research has already shown that economic perceptions can affect the approval of the President, but what does economic knowledge mean for these assessments given what we now know about how economic knowledge affects feelings on economic issues? Several have questioned the exact mechanism through which these evaluations translate to presidential approval, with some suggesting sophisticated blame attribution while others suggesting otherwise. This again touches on the ability of a democracy to hold itself accountable. If a person feels differently about the president than might someone who knows more about economic issues, can we really believe that approval numbers reflect meaningful stances of the American people?

Tables and Figures

Table 4.1: The Effect of Economic Knowledge on Public Opinion

	Immigrants likely take jobs	Immigrant levels should be increased	Inequality has grown larger	Gov. should reduce inequality	Require equal pay	Need more bank regulation	Need strong government
(Intercept)	0.677	1.070	0.875	0.469	-1.125	-0.882	0.138
	(0.651)	(0.654)	(0.636)	(0.585)	(0.712)	(0.597)	(0.584)
Age	-0.001	-0.037***	0.014 .	-0.010	0.035***	0.006	0.008
	(0.008)	(0.008)	(0.008)	(0.007)	(0.009)	(0.007)	(0.007)
Female	-0.195	-0.389	-0.445 +	-0.191	0.261	-0.412 +	-0.063
	(0.259)	(0.259)	(0.244)	(0.230)	(0.272)	(0.235)	(0.226)
African-American	0.111	-0.034	-0.432	-0.561	-0.574	0.305	0.293
	(0.369)	(0.380)	(0.376)	(0.344)	(0.411)	(0.345)	(0.362)
Hispanic	-0.173	-0.305	0.092	-0.057	-0.056	-0.190	0.211
	(0.343)	(0.359)	(0.360)	(0.325)	(0.379)	(0.336)	(0.332)
Education	-0.047	-0.005	0.039	0.129 +	0.061	0.189*	0.155*
	(0.085)	(0.082)	(0.081)	(0.075)	(0.090)	(0.076)	(0.077)
Income	-0.034	0.075 +	0.076 +	0.001	0.123*	0.057	-0.010
	(0.043)	(0.043)	(0.043)	(0.039)	(0.049)	(0.039)	(0.039)
Married	0.364	0.264	-0.910***	-0.358	-1.011***	-0.150	0.010
	(0.267)	(0.268)	(0.260)	(0.239)	(0.295)	(0.246)	(0.238)
Party Attachment	0.218**	-0.137 +	-0.214**	-0.095	-0.132	-0.010	-0.040
	(0.080)	(0.077)	(0.074)	(0.069)	(0.082)	(0.071)	(0.070)
Ideology	0.108 +	-0.074	-0.090*	-0.152***	0.002	-0.175***	-0.113**
	(0.055)	(0.049)	(0.042)	(0.044)	(0.048)	(0.047)	(0.042)
Evangelical	0.675*	0.884***	0.116	0.308	-0.063	0.145	0.303
	(0.282)	(0.255)	(0.244)	(0.234)	(0.268)	(0.242)	(0.236)
Econ. Knowledge	-0.098*	-0.014	0.067	0.075 +	0.125*	-0.016	-0.020
	(0.046)	(0.045)	(0.043)	(0.041)	(0.051)	(0.042)	(0.040)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001							
AIC	450.388	455.328	490.754	537.358	416.154	518.266	538.251
BIC	498.434	503.375	538.801	585.404	464.200	566.312	586.297
N	405	405	405	405	405	405	405

Table 4.2: The Effect of Economic Knowledge on Public Opinion

	Should Limit Trade	Trade is good	Should discourage outsourcing	US World Position Stronger	US Should Stay Home	Headed in the right direction
(Intercept)	-1.723**	-1.045	-1.543**	-3.976***	0.424	-2.821***
	(0.611)	(0.597)	(0.590)	(0.772)	(0.599)	(0.705)
Age	-0.003	-0.014 +	0.027***	-0.003	-0.006	0.000
	(0.007)	(0.007)	(0.007)	(0.009)	(0.007)	(0.009)
Female	-0.093	-0.744**	0.193	-1.183***	-0.326	-0.453 +
	(0.234)	(0.227)	(0.228)	(0.288)	(0.231)	(0.265)
African-American	0.143	-0.160	0.174	-0.180	-0.762*	-0.735
	(0.376)	(0.359)	(0.349)	(0.559)	(0.377)	(0.483)
Hispanic	-0.368	0.343	-0.009	-0.990 +	-0.096	-1.175*
	(0.371)	(0.331)	(0.322)	(0.586)	(0.329)	(0.464)
Education	-0.038	0.098	-0.138 +	0.045	0.053	0.026
	(0.078)	(0.078)	(0.075)	(0.092)	(0.077)	(0.091)
Income	0.032	0.066 +	0.007	0.116*	-0.039	0.076
	(0.041)	(0.039)	(0.039)	(0.049)	(0.040)	(0.047)
Married	0.184	0.144	-0.115	0.209	0.585*	0.612*
	(0.249)	(0.240)	(0.240)	(0.304)	(0.245)	(0.282)
Party Attachment	0.291***	0.183*	0.037	0.391***	0.082	0.439***
	(0.073)	(0.072)	(0.069)	(0.089)	(0.071)	(0.085)
Ideology	-0.007	-0.015	0.029	0.078 +	-0.058	0.090 +
	(0.042)	(0.044)	(0.043)	(0.047)	(0.043)	(0.049)
Evangelical	0.415 +	0.137	0.190	0.617*	0.842***	0.993***
	(0.238)	(0.240)	(0.235)	(0.293)	(0.235)	(0.280)
Econ. Knowledge	-0.011	0.110**	0.100*	0.077	-0.129**	-0.084 +
	(0.042)	(0.042)	(0.041)	(0.051)	(0.042)	(0.050)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001						
AIC	507.376	519.866	537.449	367.161	522.078	401.359
BIC	555.422	567.912	585.496	415.207	570.125	449.406
N	405	405	405	405	405	405

Table 4.3: Predicted Probability of Supporting Each Policy/Statement

	Immigrants Take Jobs	Reduce Inequality	Equal Pay	Trade is Good	Discourage Outsourcing	Stay Home	Right Direction
Econ. Knowledge	Probability	Probability	Probability	Probability	Probability	Probability	Probability
0	**0.85**	**0.34**	**0.64**	**0.37**	**0.41**	**0.62**	**0.47**
1	0.84	0.35	0.67	0.40	0.44	0.59	0.45
2	0.83	0.37	0.69	0.42	0.46	0.56	0.43
3	0.81	0.39	0.72	0.45	0.49	0.53	0.41
4	0.80	0.40	0.74	0.48	0.51	0.50	0.39
5	0.78	0.42	0.77	0.51	0.54	0.46	0.37
6	0.76	0.44	0.79	0.53	0.56	0.43	0.35
6.63	**0.75**	**0.45**	**0.80**	**0.55**	**0.58**	**0.41**	**0.34**
7	0.74	0.46	0.81	0.56	0.59	0.40	0.33
8	0.73	0.48	0.83	0.59	0.61	0.37	0.31
9	0.71	0.50	0.84	0.61	0.63	0.34	0.29
10	0.68	0.52	0.86	0.64	0.66	0.31	0.28
11	0.66	0.53	0.87	0.67	0.68	0.29	0.26
12	0.64	0.55	0.89	0.69	0.70	0.26	0.24
13	0.62	0.57	0.90	0.71	0.72	0.24	0.23
14	0.60	0.59	0.91	0.73	0.74	0.21	0.21
15	**0.57**	**0.61**	**0.92**	**0.76**	**0.76**	**0.19**	**0.20**

Table 4.4: Effect of Economic Knowledge on Economic Perceptions

	Retrospective Better	Retrospective Worse	Prospective Better	Prospective Worse
(Intercept)	-4.261***	-0.287	-3.548***	0.023
	(0.715)	(0.711)	(0.715)	(0.708)
Age	0.022**	-0.002	-0.002	-0.004
	(0.009)	(0.008)	(0.009)	(0.008)
Female	-0.447 +	0.524 +	-0.501 +	-0.252
	(0.253)	(0.283)	(0.260)	(0.286)
African-American	-0.802 +	0.968**	-0.102	0.270
	(0.483)	(0.367)	(0.486)	(0.379)
Hispanic	-0.416	0.961**	-0.358	-0.018
	(0.414)	(0.345)	(0.434)	(0.384)
Education	0.153 +	-0.115	0.135	-0.216*
	(0.085)	(0.099)	(0.089)	(0.099)
Income	0.083 +	-0.032	0.080 +	0.052
	(0.044)	(0.048)	(0.046)	(0.047)
Married	0.066	0.137	0.475 +	-0.447
	(0.272)	(0.287)	(0.279)	(0.289)
Party Attachment	0.286***	-0.175*	0.429***	-0.369***
	(0.078)	(0.089)	(0.085)	(0.092)
Ideology	0.127**	-0.133*	0.059	-0.091
	(0.046)	(0.066)	(0.046)	(0.064)
Evangelical	0.742**	-0.697*	0.466 +	-0.048
	(0.272)	(0.307)	(0.270)	(0.297)
Econ. Knowledge	0.006	0.043	-0.039	0.180***
	(0.047)	(0.050)	(0.048)	(0.051)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	434.135	397.077	416.369	391.028
BIC	482.182	445.123	464.415	439.075
N	405	405	405	405

Table 4.5: Predicted Probabilities for Economic Perceptions

	Retro-Better	Retro-Worse	Pro-Better	Pro-Worse
Party Attachment	Probability	Probability	Probability	Probability
1	0.19	0.27	0.10	0.38
2	0.24	0.24	0.15	0.29
3	0.29	0.21	0.21	0.22
4	0.35	0.18	0.19	0.17
5	0.42	0.16	0.38	0.12
6	0.49	0.13	0.49	0.09
7	0.56	0.11	0.59	0.06

Chapter 5: Economic Knowledge and Presidential Approval

When discussing the performance of the President of the United States, the economy is typically one of the first factors brought into the discussion. The idea of "what have you done for me lately" not only serves as an electoral benchmark, it stands as a tool of evaluation throughout a president's term. As I have shown, opinion formation can significantly alter given a person's economic knowledge, especially, and unsurprisingly, on those issues most closely related to the economy itself. Knowing that people put so much emphasis on economic performance when judging the President, it might also be expected that significant differences exist in the behavior or high economic and low economic knowledge individuals. A significant body of work already exists that suggests how people use their perceptions of the economy to judge the president, with many claims made as to the sophistication of the person when they do so. However, very little research has actually looked at breaking down the knowledge aspect of presidential approval and testing how this knowledge may affect not just the approval outcome, but also the process by which other assessments, such as prospective or retrospective economic evaluations, are utilized to judge them on.

This chapter looks specifically at the effects of economic knowledge on presidential approval. To estimate these effects, a series of models were estimated to test the effects of traditional economic variables, as well as economic knowledge. The first model deals with the retrospective versus prospective nature of the evaluations used to make these judgments. These models test how variables measuring whether people feel the economy as a whole has gotten better or worse over the past year, as well as their belief about how the economy will fare in the coming year, as predictors of presidential approval. Building upon this standard model, economic knowledge variables are added and then interacted with the perception variables to see

if any meaningful changes occur in the behavior of the voters. This process is also repeated on another type of evaluation, that of unemployment changes in the United States. Additionally, this analysis is repeated on approval ratings specifically on the President's handling of the economy. After analysis of the time frame used to evaluate the President is complete, I move to a discussion on the pocketbook versus sociotropic debate. While most research on presidential approval agrees that sociotropic measures are the only that show consistent results, what this new wrinkle of economic knowledge means for this debate must be considered. My analysis ends with a combination of the models that I have estimated so far to see the overall effects of economic knowledge on how people use economic perceptions to make judgments about the president.

The results provide generally null results. While I find that most of the expectations given by the existing literature on how economic judgments affect presidential approval hold in my models, I find almost no independent effect of economic knowledge on these judgments. I do find, however, limited evidence that the way in which some of the economic perceptions are applied to approval do change when those perceptions interact with the respondent's economic knowledge score. That is, a person's economic knowledge may influence how they utilize economic perceptions to judge the performance of the president, however, these effects appear to be limited and only appear under certain circumstances. The possible reasons for these null results and avenues for expansion on research in this general area are discussed at the end of the chapter.

Presidential Approval and the Economy

Presidential approval and the formation of such judgments have been a topic of interest in political science for some time. In addition to large stories that might dominate the public's attention at any given time, such as war and scandal, economic variables have been found to be significant influences on public perception of the president over decades of research (Mueller 1970; MacKuen, Erikson, and Stimson 1993; Fauvelle-Aymar and Stegmaier 2013). While there has been little disagreement over whether the economy affects how people appraise the performance of the president, long-standing debates have occurred over the nature in which the economy makes its way into these judgments. Specifically, researchers have been interested in the question of which evaluations are important and the time-frame in which they are considered. Are voters 'peasants', as are suggested by some researchers, who are only able to assess the president based upon what has already occurred, or are they 'bankers' who are sophisticated in their thinking and can look forward to predict how the economy will fare in the future? Are voters self-interested actors, who look at changes in their own personal well-being when deciding, or do they behave in a more altruistic nature, considering the overall health of the nation's economy? These are the basic divisions that have separated researchers studying the effect of the economy on presidential approval.

Regarding the time frame aspect of the economy and presidential approval, research has been shaped by a few foundational pieces that have established the idea that voters are either backward looking peasants or forward-looking sophisticated bankers. This is the nomenclature first given by MacKuen, Erikson, and Stimson, who argued that voters were, in fact, sophisticated bankers, and responded to dark clouds on the horizon when forming their evaluations (1992). The authors pointed to the fact that consumer expectations were strongly

predictive of changes in presidential approval to support this idea. More recent research has also supported the concept of a forward-looking public, such as Lockerbie (2008), who argued that voters sought to maximize their future benefit by voting for the candidate who would bring them the most potential future benefit. In a prospective model of presidential approval or voting, the voter is assumed to be a rational and sophisticated actor. They are presumed to know enough about the economy to predict how it will perform in the future and to be able to apply those projections onto their approval or vote decision. Despite the evidence that these authors tout as proof that voters can be sophisticated forward thinkers, the general consensus in current research has been that voters are more likely to engage in retrospective behavior. Borrowing from the ideas of those such as Key (1966) and Fiorina (1981) who argue that voters judge leaders by what they have actually done in office, most research has shown that voters act the same way when considering economic issues while assessing the performance of the president or voting (Norpoth 1996; Nadeau and Lewis-Beck 2001; Lewis-Beck and Stegmaier 2007). Voters will look at how the economy has performed in the immediate past and will judge their leaders based upon these factors. So, if the economy has been going well we should expect to see a 'reward' in the form of increased support, while the opposite should be true in times of disappointing economic news. In this way, voters are signaling their approval or disapproval of how the current administration has handled the economy when forming these evaluations, with the intention of sending a message to the leaders indicating as much. This is a much simpler process for the individual. Instead of the complex reasoning needed to predict future economic changes, the individual must only be aware of how the economy has done in the recent past.

Considering what has been learned about economic knowledge, reason exists to question both forms of voting. Low economic knowledge in the public could lead to several consequences

that skew how the voter acts when assessing the job of the president. On one hand, most individuals are not highly knowledgeable on economic affairs, and so their ability to project future economic change seems dubious. However, individuals who know less tend to be more confident in their beliefs than those with more knowledge. Because of this, we may see low knowledge voters attempting to act in a sophisticated way, just doing a poor job of it. We can similarly see the troubles that low economic knowledge may cause in retrospective models of voting. While it is true that the mental burden is less since individuals only have to look at things that have actually happened, it also must be assumed that they understand what many of the changes in the actual economy actually mean or that they were even aware of these changes in the first place. As was mentioned in the case of the 2012 Presidential election, the likelihood that the populace truly can recognize when the economy has gotten better or worse appears to be clouded. The most relevant piece of literature that speaks directly to how the sophistication and knowledge of the individual may change the thought making process still does not directly address the question of economic specific information. Acevedo, Fogleman, and Ura looked at how education affected how people assessed the job of the president (2017). Their findings suggested that education significantly altered the judgments used to make these decisions, with those with less education relying on retrospective evaluations and those with more education relying more on prospective evaluations. While these findings are important and guide toward a clearer understanding of how information affects presidential approval, it must also be recognized that education and economic knowledge are not perfectly correlated. While I have shown that education is highly influential on economic knowledge, the two variables do not appear to be perfectly interchangeable, and thus, further study must be conducted to test how this domain-specific knowledge may be mediating this relationship.

In addition to the academic debate surrounding the time-frame of considerations used when forming evaluations, another exists surrounding the scope of the evaluations used. That is, do people look to changes in their own personal economic well-being to judge their leaders, or do they look more broadly at changes in national conditions? Research supporting the pocketbook hypothesis, the view that people are more self-interested than they are sociotropic, has received little academic support in recent decades, although a few prominent studies have found significant pocketbook effects[8]. This has left the field to generally recognize that voters look to national conditions when judging their leaders and deciding their votes (Lewis-Beck and Stegmaier 2000; 2007; Lewis-Beck and Nadeau 2011). That is, it is generally believed that individuals look to changes in the national economy rather than just changes in their own personal finances and make judges based upon this more sociotropic view of the world. In part, this is because of an expectation that national changes will come to affect them in some way down the line (Linn, Nagler, and Morales 2012). Again, I can begin to postulate what this newfound knowledge of economic knowledge may mean for this behavior. While I may find it more likely that the low economic information possessed by the general public may cause them to seek out an easier source to evaluate, in this case changes in their own personal finances as they are what they are more likely to be familiar with, I also must consider long-standing research that has shown Americans to have a certain sense of economic responsibility (Feldman 1982). Additionally, it may also be the case that voters are not capable of linking changes in their own situations to policy change in Washington. On the other side, however, I also should be wary of expecting the low knowledge individual to be acutely aware of what changes have

[8] For studies that explore the possibility of significant pocketbook effects, see Lewis-Beck (1990), Brown and Woods (1991), and Nannestad and Paldam (1995).

occurred at the national level. Again, looking back to data from the 2012 Presidential election and the ANES it is easy to see that people could not agree as to whether or not things had gotten better or worse in the year leading up, despite there being a clear answer to that question. As is the case with the prospective/retrospective argument, little attention has actually been paid to the role of knowledge in this process. Gomez and Wilson have come the closest to answering this specific question, looking at the role that general political knowledge paid in determining whether voters were sociotropic or pocketbook oriented (2001). Their findings suggest a clear difference between knowledge groups, with more knowledgeable voters engaging in pocketbook voting and low information voters engaging in sociotropic voting. While important, I also must consider that general knowledge and economic knowledge are not perfectly interchangeable. Thus, some differences may exist in how economic knowledge affects this process, given the more specialized nature of the information between measured.

The Effect of Economic Knowledge on Presidential Approval

Looking at the existing research of how economic perceptions influence presidential approval, it is easy to see how economic knowledge may alter this process. While many have made broad statements regarding the role of sophistication in individuals that lead them to act in one way or the other, very little effort has been given to testing whether these things may be true. Instead of testing how the knowledge of the person being polled affects their decision-making process, it is just assumed that they act as simple peasants who can only look back and make no projection about how a president may manage a future economy. As we know that economic knowledge, or the lack thereof, plays a significant role in the formation of several opinions related to the economy, the possibility that economic knowledge also shifts thought surrounding

presidential approval can and should be tested, especially given the strong link already proven to exist between economic performance and job performance.

To test for the possible effects of economic knowledge on presidential approval, as well as the possibility that economic knowledge shifts the time-frame or level of evaluations used, data from the economic knowledge survey discussed in Chapter Three was once again utilized. Using the economic knowledge score that was developed from this survey, several models were estimated testing the effects of this score on presidential approval, in addition to models measuring the effects of traditional models of economic perceptions. These models each measure the effects of economic knowledge, perceptions, and several other demographic and political control variables on a seven-point measure of presidential approval, ranging from Strongly Disapprove to Strongly Approve. The same process was then repeated using more specific economic perceptions, those regarding changes in unemployment. Additionally, as I am interested in primarily economic issues, these same models were estimated testing how these variables affected approval specifically on the President's handling of economic affairs. The results from these models are shown in the tables below.

To begin, results were estimated testing the effects of economic knowledge on presidential approval without considering any economic perceptions. These results are shown in Table 5.1. When looking at the results, several unsurprising factors are found to significantly affect whether respondents approved or disapproved of President Trump's handling of his job. The most obvious are the variables measuring party attachment and ideology. As a person's attachment to the Republican Party increases or as they become more conservative, their approval of President Trump increases. The economic knowledge variable, however, falls short of conventional levels of significance. While it should be noted that the coefficient for this

variable is negative, suggesting that increasing economic knowledge would lower support for the President, the effect is not significant, suggesting that, by itself, the amount that a person knows about the economy appears to not have a significant impact on presidential approval by itself. This finding, while somewhat surprising, is not completely unexpected. Existing research on how economic perceptions impact presidential approval tend to use voter sophistication and knowledge as an explanatory force behind which perceptions are important and make no claims about the impact of the knowledge itself.

The next set of models, shown in Table 5.2, begin to include the traditionally measured effects of various economic perceptions on presidential approval. In these models, both prospective and retrospective perceptions are taken into consideration, measured as dummy variables indicating whether the person stated that the economy had become or would become better or worse, with a reference group of no change in economic conditions. The first model, labeled Model 2, shows a traditional sociotropic economic perception model of presidential approval. In general, the results from this model fit closely in line with my expectations given the existing literature on the topic. Economic perceptions tend to affect presidential approval in the expected way for each of the different measures, except for retrospective negative perceptions. This suggests that respondents used their retrospective positive economic perceptions, as well as their prospective positive and negative perceptions, to judge President Trump, however, there was no significant effect of negative retrospective evaluations. The lack of a significant effect for the negative retrospective evaluations is somewhat surprising given existing research, however, I must consider that this is a cross-sectional analysis considering views at one specific slice of time. In general, the economy had not gotten worse by almost any measure in the twelve months leading up to this poll, so it may be the case that voters who held the view that the economy had

gotten worse subconsciously did not consider it in the decision-making process as it was hard to base that belief in real economic conditions. Additionally, ideology no longer meets the traditional standards of significance once these perceptions are considered. The addition of the economic knowledge variable in Model 3 makes no significant changes to any of the variables included in the previous model. This means that, even after controlling for the levels of knowledge that one has about the economy, behavior does not appear to change regarding how people use their economic perceptions to judge the President. This result is surprising if expectations are based on the previous literature. While many existing studies have hinted at a possible relationship between knowledge or sophistication and how these results are utilized, no such effect appears to exist.

A final consideration is the possibility of interacting effects between these perceptions and a person's economic knowledge. That is, how might a person's economic knowledge affect their view of the president, given their economic perceptions. To test for this possibility, interaction effects were included in Model 4. The interaction model's results suggest an optimistic type of individual, where only positive judgments appear to remain. By itself, the only economic perception variable that remained significant was the prospective positive one. This means that a person that thought the economy was going to get better over the next year had a higher approval of the President, not a surprising result, while a person holding a negative future view of the economy did not seem to punish the President for it. Additionally, the interaction between retrospective positive evaluations and economic knowledge is significant at the .1 level. This means that, given a person's level of economic knowledge, their retrospective evaluation that the economy had gotten better over the previous year led to increased support for the President. The more a person knows about the economy the stronger this effect grows.

Beyond the broad kinds of evaluations that have been used so far, there exists the possibility that effects exist when people are probed about specific economic issues. The unemployment rate has long been shown to affect presidential approval, and even serves in several predictive models of voting. As such, a series of models were estimated using prospective and retrospective perceptions of changes in unemployment on presidential approval. Table 5.3 shows the results of the unemployment perception models. Interestingly, the only two perception variables that reach the conventionally accepted level of significance are the two measuring positive views of unemployment change. Both retrospective and prospective positive evaluations of change in unemployment were associated with an increase of approval for the President, an expected result. No change occurs once the economic knowledge variable is included and no effects appear once the interaction effects are considered. Altogether this shows that how a person judges the president given their perceptions of unemployment does not appear to be affected by their knowledge of the economy.

Another fold that can be explored in the approval puzzle has to do with specific approval of the way the President is handling the economy. Questions specifically asking whether a person approves of the way the President is doing economically have long been included on polls and suggest another avenue in which economic knowledge may be affecting decision making. It may even be expected, due to the specific wording of the question asking about the economy, that it has an even stronger effect when measuring this variable. These effects are easily testable, and each of the models previously discussed were re-estimated replacing general approval for economic approval. Table 5.4 shows the complete results for the models estimating these effects on economic approval of the president. As was done with general approval, the effect of economic knowledge alone was first tested. As was the case before, it did not show an

independent effect on approval of the president's handling of the economy. The more traditional retrospective and prospective model, Model 9, completely conforms to expectations, with each of the perception measures showing significant effects in the expected direction. When a person perceives past economic performance or future economic performance to be better than current conditions, they show stronger support for the president. When they perceive worse conditions across the two time frames, their support drops. The inclusion of economic knowledge in the perception model makes no changes in the significance of any of these variables. Finally, in Model 11, the interaction terms used before were included to measure their effect on economic approval. Here, several interesting changes in significance are observed. Economic knowledge's main effect becomes, for the first time, significant. The more a person knows about the economy, the more they support the president's handling of the economy. Additionally, both negative perception variables lose significance on their main effects, while the positive variables remain. That means, without considering economic knowledge, respondents were likely to adjust their evaluation of the president's handling of the economy if they had positive retrospective or prospective evaluations of the economy. While the main effects lost their significance, the interaction terms between the prospective and retrospective negative evaluations and economic knowledge show significant effects in the expected negative direction. This provides an interesting piece of information in the evaluation of the effect of economic knowledge. While the knowledge variable alone has a positive effect on approval, there also exists an additional effect in the interaction variables. The more a person who thinks the economy has or will get worse knows about the economy, the less they support the president's handling of it. Once again, a bit of an optimistic populace is observed. They will reward the president when they believe the economy has or will get better, but they seem more hesitant to punish them for poor

performance, with this variable being conditioned by how much the person knows about the economy.

My analysis so far has focused entirely on prospective and retrospective evaluations that are sociotropic in nature, largely because of the consensus in the existing literature that argues that sociotropic evaluations are those most likely to be used when forming judgments, however, the possibility must be explored that pocketbook variables may also have an effect or that these effects may alter once we consider the effects of economic knowledge, as well as how it may mediate these relationships. To test for the possibility of pocketbook effects on presidential approval, models were once again re-estimated, this time with the sociotropic variables replaced with pocketbook measures instead. These pocketbook variables measure whether the respondent indicated that their personal financial situation had gotten better or worse in the most recent year, the standard way these variables are measured in the existing literature. As was done with the sociotropic measures, the effects of these measures were also tested for possible effects on approval of the president's handling of the economy.

The results from the first pocketbook model are shown in Table 5.5. These models estimate the effects of pocketbook measures of economic perceptions on approval for the president overall. The first model represents what a typical cross-sectional analysis of pocketbook effects would be expected to look like, without considering the effects that economic knowledge may have. In general, the results from this model reflect what the general expectations would be. Party attachment and ideology both show expected effects, the stronger the attachment to the Republican Party and the more conservative a person believes they are the more they approve of the current Republican president. The pocketbook measures also show effects in the general directions they would be expected. People who stated that their financial

situation had improved in the previous year had a higher approval of President Trump, while those who stated that their financial situation had worsened had lower support. This provides some support for the idea that, at least during this section in time[9], pocketbook effects had a clear impact on support for the President. The second model presented in the table controls for the possible effects of economic knowledge. While the coefficient for the economic knowledge variable does show a negative effect on presidential approval, the variable is not significant. Additionally, the significance and direction of effect for the other variables does not change at all. This means that even when controlling for the possible effects of economic knowledge, pocketbook evaluations still show significant effects on presidential approval. The effects of economic knowledge continue to be non-significant in the model that includes the interaction effects, as well. Altogether, this suggests that economic knowledge has little impact on how pocketbook economic evaluations are used to judge the president generally. While there were no significant effects of economic knowledge on how people utilized their pocketbook evaluations on general presidential approval, it must also be considered how these effects may change when evaluating just the job the president has done on the economy specifically. These results are shown in Table 5.6. As was done with the general approval models, the effects of pocketbook evaluations by themselves were first estimated. Once again, the measures showed effects in the anticipated directions. Party and ideology variables showed significant effects in the anticipated directions, as did the variables measure better or worse personal financial situations over the previous year. The same effects remained even after controlling for economic knowledge, as was the case in the previous set of models as well. Finally, interaction effects showed no change for

[9] Among the most common criticisms of pocketbook models of economic evaluation is the lack of consistent effects across time (Lewis-Beck and Stegmaier 2000).

the effects of economic knowledge. In the purely sociotropic models estimated before some effect of economic knowledge was found once interactions were considered, however, this does not appear to be the case in the pocketbook models even when looking at the effects on approval towards the economy specifically.

Overall, these results suggest that economic knowledge has little to no effect on how people apply their personal financial perceptions towards their approval or disapproval of the president, whether that be general approval or approval specifically on their handling of economic issues. So far, my models have separated sociotropic variables and pocketbook variables, however, I also must consider whether economic knowledge leads a person to act on one type of perception more than the other. That is, I can consider how effects change once both sociotropic and pocketbook variables are considered at the same time. Much of the existing literature on these effects suggest that pocketbook voting is a more knowledge-intensive act, as such, it would be expected to see results that represent this. The effects for these models on general approval and approval on the economy are shown in Table 5.7. In the two models that measure the effects without any interactions, all perception variables are significant in the anticipated directions, with the only exception being that better personal perceptions do not seem to effect approval overall or on the economy specifically when considering sociotropic measures in the same model. The interaction models do not add any significance for the general approval model, however, there are some significant effects in the economic approval model. Perceptions that one's personal financial situation has improved have an increasingly positive effect on presidential approval of the economy given a person's economic knowledge. Additionally, I also find that retrospective sociotropic evaluations have an increasingly negative effect given a person's economic knowledge. This suggests that some relationship does exist between

evaluations, perceptions, and knowledge, but these relationships are still muddied and appear to only exist when judging the job of the President on the issue of the economy itself.

A final consideration in the role economic knowledge plays in presidential approval is the possible interaction between a person's party attachment and their economic knowledge. A person's approval of the president is largely tied to their own political biases, with people obviously more likely to express support for a president from their own party than from the opposition. As party identification plays such a strong role in the formation of these judgments, I also tested whether economic knowledge plays role in dampening or even strengthening the partisan nature of these assessments given the respondents partisan registration. For instance, as the survey was conducted in February of 2019, this means I can look at whether increasing knowledge decreases the effect that being a registered Democrat has on approval for Republican President Donald Trump, or if it increases the effect that being a registered Republican has. I would expect effects in the stated direction given the economic conditions the country faced at the time this study was conducted. So then, a more knowledgeable Democrat, recognizing the strong economic condition of the country, might find that economic knowledge decreases the penalty that they would levy against the president simply because of the difference in political parties. Meanwhile, I may also find that knowledge strengthens the effect for Republicans, as they are more likely to recognize an economic condition that strengthens their own internal partisan bias. To account for this possibility, models were estimated interacting economic knowledge with a dummy variable representing whether the respondent was a registered Democrat or a registered Republican. This measures the effect of a person's partisanship given their level of economic knowledge towards both general job approval and approval of the President's handling of the economy.

Two models were first estimated that measured the effects of party and knowledge without the interaction effects. In both of these models, the results reflect what was expected. Party registration effects presidential approval in the expected direction, positively for Republicans and negatively for Democrats, while economic knowledge shows no significant effects. The interaction terms between party registration and knowledge were then added. In both interaction models, the expected results for registered Republicans hold, that their partisanship increases the likelihood that they approve of the President. Interestingly, however, significant effects for the registered Democrat dummy variable disappear. That is, once the possible cross-pressure of reckoning one's partisanship with what they know about a strong economy is considered, the effect appears to disappear. Moreover, the interaction models show no significant effects for the added interaction terms, suggesting that economic knowledge has no additional positive or negative impact on the effect of partisanship towards approval measures. While this may not be entirely surprising for overall approval, after all, there are several issues on which a person may judge the president, the effects are slightly surprising for the economic approval model. When asked to specifically judge the job of the President on their handling of the economy, we would want people to base their judgments on more than just their partisan perceptions, however, there are not any significant effects in either of these models that would suggest that they do so. The only possible piece of evidence that suggests any change in behavior is the possibility that when faced with an economic reality that does not match their partisan bias, the effects of partisanship may disappear.

Conclusion

The results from the models give a mixed picture on the effect that economic knowledge has on presidential approval. In general, economic knowledge does not appear to have a significant effect on presidential approval generally or specifically on economic affairs on its own, and even after interacting economic knowledge with various measures of perceptions significant effects are rarely seen. The most promising bit of evidence that a relationship may exist comes from one of the various sociotropic models that were created. In this model, Model 11, increasing economic knowledge increased support for the President's handling of the economy. Additionally, the inclusion of economic knowledge variables in traditional models of approval showed little to no change in the effect of the perception variables. This suggests that, even after considering the effects of knowledge, there is no change in how people are applying their judgments to approval. In general, these findings are a bit surprising. Economic knowledge appears to affect the ways in which perceptions are used to judge president rarely and only in certain circumstances, the existing studies that have made claims that the prospective or retrospective nature of voting or evaluation is related to the sophistication and knowledge of the vote. The same has been used to describe why voters engage in sociotropic voting over pocketbook voting. The inclusion of interaction effects between the perceptions and knowledge does provide some support for the idea that economic knowledge has a significant impact on economic specific approval when both sociotropic and pocketbook measures are included in the same model, but beyond this evidence of a change in behavior is minimal.

While these results may be slightly surprising given the expectations that were given in the existing literature, I must also acknowledge the limitations of this study. Many of the existing studies into economic perceptions and presidential approval have studied these effects over a

period of time. This study, however, is limited only to a single survey conducted in the middle of February 2019. If researchers continue to ask people the same questions regarding the economy over a longer period, it may be found that these results materialize more clearly. Additionally, my sample was limited to 405 people. While not a poor sample size, the presence of several borderline significant effects does suggest that a larger sample may provide clearer results for some of the variables. Moving forward, the continued surveying of respondents regarding their knowledge of the economy can help to clear up these relationships and may even find that the older literature's suggestions that the reasons we see retrospective and sociotropic evaluations relied upon most heavily is because of knowledge to be true. Finally, consideration must be given to the possibility that people act differently when evaluating the president and when actually deciding who to vote for. Most existing studies suggest that the same variables that impact approval also impact the vote but given the unique nature of the questions that are being studied suggests that the effects during elections must be independently studied. This study was obviously limited in its ability to consider these factors given time.

Thus, this leaves a significant question when dealing with this body of literature. If it is not our knowledge of the economy that is driving which perceptions we rely on when forming our political judgments, what is it? Certainly, it does appear that one of the leading causes is a long time suspect, our own motivated reasoning. While not the subject of this study, the results seen in the final set of models do suggest that we may abandon a certain perception as a guiding post when it does not match our political bias, an issue that is ripe for future exploration of this subject matter. Additional consideration must be given to the particular person in office at the time of this study. President Donald Trump has, without a doubt, been an incredibly polarizing figure, and as such, these results may reflect the intense pre-existing attitudes many have about

this particular president. Through the end of 2018, approval ratings for President Trump had been incredibly stable, much more so than for other presidents (Jones 2018). Because of this, perhaps it is just that people do not base their feelings toward the president on their economic perceptions, but instead are so set in their ways already that they would approve or disapprove no matter the state of affairs.

Tables and Figures

Table 5.1: The Effect of Economic Knowledge on Presidential Approval

	Model 1
(Intercept)	0.372
	(0.469)
Age	0.001
	(0.006)
Female	-0.245
	(0.182)
African-American	-0.056
	(0.281)
Hispanic	-0.410
	(0.264)
Education	0.058
	(0.060)
Income	0.020
	(0.031)
Married	0.620**
	(0.192)
Party Attachment	0.567***
	(0.055)
Ideology	0.092**
	(0.034)
Evangelical	0.834***
	(0.188)
Econ. Knowledge	-0.025
	(0.032)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001	
R-squared	0.487
adj. R-squared	0.473
N	405

Table 5.2: The Effect of Economic Knowledge and Prospective and Retrospective Judgments on Presidential Approval

	Model 2	Model 3	Model 4
(Intercept)	1.114**	1.116**	1.070*
	(0.400)	(0.407)	(0.473)
Age	-0.002	-0.002	-0.002
	(0.005)	(0.005)	(0.005)
Female	-0.081	-0.081	-0.069
	(0.156)	(0.156)	(0.156)
African-American	0.074	0.074	0.066
	(0.240)	(0.240)	(0.240)
Hispanic	-0.277	-0.277	-0.277
	(0.226)	(0.226)	(0.226)
Education	-0.022	-0.022	-0.019
	(0.050)	(0.051)	(0.051)
Income	-0.004	-0.004	-0.000
	(0.026)	(0.027)	(0.027)
Married	0.434**	0.434**	0.422*
	(0.163)	(0.164)	(0.164)
Party Attachment	0.381***	0.381***	0.382***
	(0.049)	(0.049)	(0.049)
Ideology	0.045	0.045	0.037
	(0.029)	(0.029)	(0.029)
Evangelical	0.592***	0.591***	0.584***
	(0.158)	(0.161)	(0.162)
Retro-Better	0.716***	0.716***	-0.146
	(0.203)	(0.203)	(0.514)
Retro-Worse	-0.127	-0.127	0.121
	(0.203)	(0.204)	(0.496)
Pro-Better	1.514***	1.514***	2.087***
	(0.205)	(0.206)	(0.516)
Pro-Worse	-0.607**	-0.606**	-0.120
	(0.201)	(0.204)	(0.511)
Econ. Knowledge		-0.001	0.001
		(0.028)	(0.052)
Retro-Better*Econ.Knowledge			0.121 +
			(0.069)
Retro-Worse*Econ.Knowledge			-0.041
			(0.070)
Pro-Better*Econ.Knowledge			-0.078
			(0.069)
Pro-Worse*Econ.Knowledge			-0.064
			(0.069)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001			
adj. R-squared	0.624	0.623	0.626
N	405	405	405

Table 5.3: The Effect of Economic Knowledge and Unemployment Perceptions on Presidential Approval

	Model 5	Model 6	Model 7
(Intercept)	0.328	0.466	0.469
	(0.434)	(0.443)	(0.498)
Age	-0.002	0.000	0.000
	(0.005)	(0.005)	(0.005)
Female	-0.201	-0.211	-0.174
	(0.170)	(0.170)	(0.171)
African-American	0.105	0.094	0.076
	(0.261)	(0.261)	(0.262)
Hispanic	-0.250	-0.258	-0.325
	(0.245)	(0.245)	(0.248)
Education	0.020	0.032	0.029
	(0.055)	(0.056)	(0.056)
Income	0.000	0.005	0.004
	(0.029)	(0.029)	(0.029)
Married	0.586**	0.564**	0.543**
	(0.177)	(0.178)	(0.178)
Party Attachment	0.479***	0.478***	0.467***
	(0.052)	(0.052)	(0.053)
Ideology	0.049	0.051	0.052
	(0.032)	(0.032)	(0.032)
Evangelical	0.827***	0.779***	0.746***
	(0.172)	(0.175)	(0.176)
Retro-Unemp. Better	0.960***	0.959***	1.009*
	(0.192)	(0.192)	(0.467)
Retro-Unemp. Worse	-0.364	-0.370	0.201
	(0.255)	(0.254)	(0.622)
Pro-Unemp. Worse	0.299	0.303	0.617
	(0.200)	(0.200)	(0.495)
Pro-Unemp. Better	0.997***	1.028***	0.543
	(0.219)	(0.220)	(0.533)
Econ. Knowledge		-0.044	-0.031
		(0.030)	(0.054)
Econ. Knowledge * Retro-Better			-0.011
			(0.064)
Econ. Knowledge * Retro-Worse			-0.097
			(0.092)
Econ. Knowledge * Pro-Better			0.068
			(0.071)
Econ. Knowledge * Pro-Worse			-0.047
			(0.069)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001			
adj. R-squared	0.550	0.551	0.551
N	405	405	405

Table 5.4: The Effect of Economic Knowledge and Prospective and Retrospective Judgments on Approval of President's Handling of the Economy

	Model 8	Model 9	Model 10	Model 11
(Intercept)	1.164*	2.167***	2.069***	1.688***
	(0.469)	(0.398)	(0.404)	(0.469)
Age	0.002	-0.000	-0.002	-0.002
	(0.006)	(0.005)	(0.005)	(0.005)
Female	-0.548**	-0.359*	-0.355*	-0.348*
	(0.182)	(0.155)	(0.155)	(0.154)
African-American	-0.233	0.017	0.027	0.008
	(0.280)	(0.239)	(0.239)	(0.238)
Hispanic	-0.514 +	-0.286	-0.280	-0.294
	(0.264)	(0.225)	(0.225)	(0.224)
Education	0.009	-0.058	-0.069	-0.071
	(0.060)	(0.050)	(0.051)	(0.051)
Income	0.025	0.003	-0.000	0.005
	(0.031)	(0.026)	(0.026)	(0.026)
Married	0.521**	0.375*	0.389*	0.387*
	(0.192)	(0.163)	(0.163)	(0.162)
Party Attachment	0.485***	0.313***	0.310***	0.309***
	(0.055)	(0.049)	(0.049)	(0.049)
Ideology	0.091**	0.040	0.037	0.032
	(0.034)	(0.029)	(0.029)	(0.029)
Evangelical	0.676***	0.348*	0.391*	0.408*
	(0.188)	(0.157)	(0.160)	(0.160)
Econ. Knowledge	0.016		0.038	0.102*
	(0.032)		(0.027)	(0.051)
Retro-Better		1.017***	1.003***	0.882 .
		(0.202)	(0.202)	(0.509)
Retro-Worse		-0.678***	-0.676***	0.026
		(0.203)	(0.202)	(0.492)
Pro-Better		1.028***	1.032***	1.291*
		(0.205)	(0.204)	(0.512)
Pro-Worse		-0.457*	-0.506*	0.266
		(0.200)	(0.203)	(0.507)
Retro-Better*Econ.Knowledge				0.010
				(0.069)
Retro-Worse*Econ.Knowledge				-0.111
				(0.070)
Pro-Better*Econ.Knowledge				-0.038
				(0.069)
Pro-Worse*Econ.Knowledge				-0.108
				(0.068)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
adj. R-squared	0.439	0.603	0.603	0.609
N	405	405	405	405

Table 5.5: The Effect of Economic Knowledge and Personal Financial Perceptions on Presidential Approval

	Model 12	Model 13	Model 14
(Intercept)	0.407	0.454	0.509
	(0.448)	(0.458)	(0.497)
Age	0.002	0.003	0.003
	(0.005)	(0.005)	(0.005)
Female	-0.115	-0.118	-0.112
	(0.177)	(0.177)	(0.177)
African-American	-0.087	-0.091	-0.108
	(0.270)	(0.271)	(0.273)
Hispanic	-0.344	-0.348	-0.339
	(0.254)	(0.254)	(0.255)
Education	0.060	0.064	0.060
	(0.057)	(0.058)	(0.058)
Income	-0.010	-0.008	-0.007
	(0.030)	(0.030)	(0.031)
Married	0.602**	0.594**	0.587**
	(0.185)	(0.185)	(0.187)
Party Attachment	0.525***	0.525***	0.524***
	(0.053)	(0.054)	(0.054)
Ideology	0.080*	0.082*	0.076*
	(0.032)	(0.033)	(0.033)
Evangelical	0.708***	0.692***	0.709***
	(0.180)	(0.183)	(0.185)
Econ. Knowledge		-0.015	-0.021
		(0.031)	(0.047)
Personal Better	0.707***	0.703***	0.429
	(0.198)	(0.199)	(0.480)
Personal Worse	-0.679**	-0.676**	-0.425
	(0.215)	(0.215)	(0.545)
Pers. Better * Econ. Knowledge			0.043
			(0.066)
Pers. Worse * Econ. Knowledge			-0.038
			(0.075)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001			
R-squared	0.526	0.527	0.528
adj. R-squared	0.512	0.511	0.510
N	405	405	405

Table 5.6 The Effect of Economic Knowledge and Personal Financial Perceptions on Approval of President's Handling of the Economy

	Model 15	Model 16	Model 17
(Intercept)	1.359**	1.284**	1.434**
	(0.452)	(0.462)	(0.501)
Age	0.005	0.004	0.004
	(0.005)	(0.006)	(0.006)
Female	-0.445*	-0.440*	-0.432*
	(0.178)	(0.179)	(0.179)
African-American	-0.260	-0.254	-0.261
	(0.273)	(0.273)	(0.275)
Hispanic	-0.464 +	-0.458 +	-0.453 +
	(0.256)	(0.257)	(0.257)
Education	0.023	0.016	0.014
	(0.058)	(0.058)	(0.059)
Income	0.004	0.001	0.004
	(0.030)	(0.031)	(0.031)
Married	0.493**	0.505**	0.487*
	(0.186)	(0.187)	(0.188)
Party Attachment	0.451***	0.450***	0.450***
	(0.054)	(0.054)	(0.054)
Ideology	0.083*	0.081*	0.076*
	(0.033)	(0.033)	(0.033)
Evangelical	0.533**	0.559**	0.586**
	(0.182)	(0.185)	(0.186)
Econ. Knowledge		0.025	0.001
		(0.031)	(0.048)
Personal Better	0.514*	0.520**	0.043
	(0.200)	(0.200)	(0.483)
Personal Worse	-0.699**	-0.704**	-0.644
	(0.217)	(0.217)	(0.549)
Pers. Better * Econ. Knowledge			0.073
			(0.066)
Pers. Worse * Econ. Knowledge			-0.009
			(0.076)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001			
R-squared	0.486	0.487	0.489
adj. R-squared	0.471	0.470	0.470
N	405	405	405

Table 5.7: Economic Knowledge and Sociotropic/Pocketbook Effects on Approval

	Gen. App.	Gen. App.	Econ App.	Econ App.
(Intercept)	0.954*	1.040*	1.981***	1.905***
	(0.440)	(0.507)	(0.423)	(0.484)
Econ. Knowledge	-0.020	-0.037	0.021	0.035
	(0.029)	(0.055)	(0.028)	(0.053)
Age	-0.003	-0.003	-0.003	-0.004
	(0.005)	(0.005)	(0.005)	(0.005)
Female	-0.055	-0.045	-0.341*	-0.329*
	(0.168)	(0.168)	(0.161)	(0.161)
African-American	0.131	0.127	0.083	0.099
	(0.259)	(0.261)	(0.249)	(0.249)
Hispanic	-0.227	-0.235	-0.242	-0.254
	(0.243)	(0.244)	(0.234)	(0.233)
Education	0.022	0.021	-0.038	-0.045
	(0.055)	(0.056)	(0.053)	(0.053)
Income	-0.014	-0.008	-0.006	0.003
	(0.029)	(0.029)	(0.028)	(0.028)
Married	0.591***	0.570**	0.510**	0.483**
	(0.175)	(0.177)	(0.169)	(0.169)
Party Attachment	0.467***	0.465***	0.375***	0.377***
	(0.051)	(0.051)	(0.049)	(0.049)
Ideology	0.048	0.041	0.039	0.032
	(0.031)	(0.031)	(0.030)	(0.030)
Evangelical	0.566**	0.598***	0.383*	0.457**
	(0.174)	(0.177)	(0.167)	(0.169)
Personal Better	0.291	0.007	0.049	-0.742
	(0.200)	(0.514)	(0.192)	(0.491)
Personal Worse	-0.473*	-0.524	-0.362 +	-0.672
	(0.210)	(0.528)	(0.202)	(0.504)
Retro Better	1.268***	1.018 +	1.445***	1.845***
	(0.211)	(0.531)	(0.203)	(0.507)
Retro Worse	-0.344 +	0.129	-0.839***	0.271
	(0.214)	(0.518)	(0.206)	(0.495)
Pers. Better * Econ. Knowledge		0.044		0.117 +
		(0.070)		(0.067)
Pers. Worse * Econ. Knowledge		0.010		0.047
		(0.073)		(0.070)
Retro Better * Econ. Knowledge		0.037		-0.061
		(0.073)		(0.070)
Retro Worse * Econ. Knowledge		-0.073		-0.172*
		(0.073)		(0.070)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
R-squared	0.579	0.583	0.585	0.595
adj. R-squared	0.563	0.562	0.569	0.575
N	405	405	405	405

Table 5.8: Party and Knowledge Effects on Approval

	Gen. Approval	Gen. Approval	Econ. Approval	Econ. Approval
(Intercept)	2.458***	2.327***	3.149***	2.981***
	(0.378)	(0.425)	(0.377)	(0.424)
Age	-0.002	-0.002	-0.002	-0.002
	(0.005)	(0.005)	(0.005)	(0.005)
Female	-0.006	-0.017	-0.315	-0.322*
	(0.161)	(0.161)	(0.160)	(0.161)
African-American	0.062	0.043	-0.013	-0.020
	(0.242)	(0.243)	(0.242)	(0.243)
Hispanic	-0.307	-0.317	-0.320	-0.321
	(0.227)	(0.228)	(0.227)	(0.227)
Education	0.001	0.002	-0.054	-0.060
	(0.052)	(0.053)	(0.052)	(0.052)
Income	-0.009	-0.010	-0.005	-0.007
	(0.027)	(0.027)	(0.027)	(0.027)
Married	0.429**	0.419*	0.383*	0.379*
	(0.165)	(0.165)	(0.165)	(0.165)
Democrat	-0.867***	-0.504	-0.597**	-0.314
	(0.191)	(0.446)	(0.190)	(0.445)
Republican	0.928***	0.974*	0.789***	1.152*
	(0.211)	(0.481)	(0.210)	(0.480)
Econ. Knowledge	-0.005	0.015	0.036	0.068
	(0.028)	(0.045)	(0.028)	(0.045)
Ideology	0.058*	0.057*	0.050	0.051
	(0.029)	(0.029)	(0.028)	(0.029)
Evangelical	0.493**	0.489**	0.314	0.306
	(0.164)	(0.164)	(0.164)	(0.164)
Retro-Better	0.764***	0.738***	1.043***	1.036***
	(0.204)	(0.206)	(0.203)	(0.205)
Retro-Worse	-0.047	-0.053	-0.614**	-0.614**
	(0.205)	(0.205)	(0.204)	(0.205)
Pro-Better	1.617***	1.616***	1.112***	1.130***
	(0.207)	(0.208)	(0.206)	(0.208)
Pro-Worse	-0.647**	-0.641**	-0.548**	-0.551**
	(0.205)	(0.205)	(0.204)	(0.205)
Dem. * Knowledge		-0.056		-0.042
		(0.061)		(0.061)
Rep. * Knowledge		-0.006		-0.053
		(0.064)		(0.064)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
R-squared	0.634	0.635	0.612	0.613
adj. R-squared	0.619	0.618	0.596	0.595
N	405	405	405	405

Chapter 6: Economic Knowledge and the Effects of Information

While the public appears to be operating on less than ideal levels of knowledge about economic issues, it does not change the fact that the economy is among the most prevalent valence issues. Every citizen is affected in some way or another by the state of the economy, and so every citizen has some stake in its performance. Because of this, a significant amount of attention is spent by the media covering various economic issues. However, the effectiveness of the provision of information to the public should be in question. Providing people with information can significantly alter the thinking of a person, but the effectiveness of new information is largely dependent on how much the person already knows. Because the populace is largely lacking in economic knowledge, questions arise as to how effective reports of the state of the economy can be on shaping how people think about current affairs. This has dramatic consequences beyond just a person's feelings towards issues such as foreign trade or equal pay. As was mentioned in Chapter Two, perceptions of the economy often do not match economic reality, and so a situation in which the populace is much more bearish towards the economy can lead to a situation in which things are operating sub-optimally given actual economic performance.

Because of the complexity of economic affairs, it must also be considered how economic knowledge affects not only how people react to information about the economy, but also how different presentations of information may lead to the absorption of information by people of different levels of information. Given my findings of generally low economic knowledge among the public, it may likely be expected that news stories of economic affairs, reports that focus on telling stories of those affected by the economy, spread more prolifically among the public than more technical reports that focus on economic information or data, with the assumption being

that these news reports would be easier to grasp by the masses than reports written for or by researchers. This assumption is not necessarily one that may surprise most, it would be expected that the more knowledgeable to be able to grasp materials written in a more technical way on most subjects. But in a world where the consumption of news and information is shifting further and further away from traditional sources and more towards the collection of information from our self-created social echo-chambers (Poindexter 2012; Antunovic, Parsons, and Cooke 2016), the ability of officials to accurately spread information to the masses may come into question.

In this chapter, the effectiveness of two different types of information about the economy, news stories (such as that gathered through popular websites) and technical information (such as that gathered from technical reports written by researchers or government agencies), are tested for their ability to influence opinion on economic issues, while also considering how economic knowledge may mediate these effects. To do this, a survey experiment was created that presented respondents with randomized information prompts and then asked their opinions on various related to the information they were shown. The survey also included the same set of economic knowledge questions included on the original survey, to allow me to test how effects the prompts were after controlling for information, as well as how knowledge interacts with the specific prompt type to change the effectiveness of the information presented in affecting opinions. The results from the experiment present interesting findings that do not necessarily match with expectations. In general, opinion surrounding the effect of the late 2018 – early 2019 government shutdown was only moved by the informational prompts on the question most directly tied to economics, while the questions that may be seen as more politically motivated were unchanged. When separated into knowledge groups, these effects did not persist for those with the highest levels of economic knowledge. In the second part of the experiment, effects are shown for only

technical information on opinions towards the effects of President Trump's trade policies. Those with the highest levels of information once again differed from those with the least. In general, these results present a more positive picture than expected. While news reports did show some effect on opinion in one model, technical information was more often the driver of change in opinion when change did occur. Additionally, low information voters were more likely to be the ones who changed their opinions based upon this information, suggesting that even low knowledge individuals can be educated on matters of the economy and that it is more effective when done so with technical information. The implications and limitations of these results are discussed.

Why Information Matters

As has been well established, the possession of information about an issue can have significant impacts on the stated opinions people hold on that issue. This has been shown time and time again in existing research (Delli Carpini and Keeter 1996; Bartels 1996; Althaus 1998), as well as in previous chapters of this dissertation where it was shown that economic knowledge had a significant impact on many opinions towards the economy. Existing research has also shown that the provision of information can impact opinion as well (Lupia 1994; Gilens 2001). The effectiveness of the provision of information, however, appears to benefit those who are already highly informed already, as they are most likely to be able to correctly incorporate this new information into their decision-making process. Other research has also shown that the utilization of heuristics decreases as the knowledge level of a person decreases (Lau and Redlawsk 2001). This leads to questions about how the provision of economic information may influence economic opinion formation. Does the provision of specific information about the

economy cause people to more closely represent their "fully-informed" selves? For whom is this provision most effective, those who are largely unaware of economic issues and for whom the information provided may be completely new to them, or the more informed, who are likely more capable of internalizing the information they are given? If providing people with information can help them resemble what would be their fully informed opinions, then a more positive image of the public emerges than the one that was painted before.

At question in this chapter is not only how information affects opinion, but what kind of information is most effective at influencing individuals. Specifically, how might news stories about various economic situations compare to more technical reports of affairs differ in their ability to influence opinion? Given the comparative ease of understanding information presented in a news report, it may be expected that the presentation of information in this way to be more effective given the generally low levels of economic knowledge in the public. As such, it is my expectation that I will find that respondents are more likely to respond to news reports of economic information than they are to technical reports of economic information, largely due to the low levels of economic knowledge in the public. Additionally, I believe that I will find that specific interactions exist between the type of information a person received and their levels of economic knowledge. Specifically, while I expect news stories to be the most effective influencer overall, I also expect that its effects will be lessened as the level of economic knowledge in a person increases. Conversely, I believe that I will find that technical information has an opposite effect, that it will be more effective in influencing those with more economic knowledge.

Experimental Procedure

To test the relationship between economic knowledge and how people respond to different forms of information, a survey experiment was developed in June 2019 that focused on two contemporary issues: the late 2018-early 2019 government shutdown and the effects of President Trump's trade policies. These two issues represent some of the most widely reported economic events over the past year. The government shutdown, which lasted for 35 days, was the longest in United States history, and was the result of budget disagreements between President Trump and congressional Democrats on the inclusion of funding for a wall across the southern border of the United States, with President Trump refusing to sign any budget deal that did not include funding for the structure (Werner, Paletta, and Wagner 2018; Carney 2019). President Trump was ultimately unable to get the Congress to agree on funding for the border wall and instead vowed to declare a national emergency to move money away from other programs and towards its construction (Baker, Cochrane, and Haberman 2019). In regard to trade, the issue had long dominated the political agenda of President Trump in the lead up to this survey. Trump had long railed against what he claimed were unfair trade practices from many of America's partners, and sought to restructure many agreements between the U.S. and other foreign powers. By 2018 many had considered the United States to be in a full-fledged trade war with China, the world's second leading economy, with President Trump imposing billions of dollars on the nation's exports (Swanson 2018). These tariffs continued and led to many countries establishing retaliatory tariffs on American exports, which eventually led to a decrease in productivity for some American industries, namely the dairy industry (Rappeport 2019). The two issues represented compelling but different cases to test, with the government shutdown being related to the somewhat economically removed issue of immigration and the construction

of a border wall while still representing an event with direct economic consequences, while the issue of trade policy was somewhat less politically motivated and had more direct and immediate implications for American consumers.

The experiment was completed by 466 respondents who were recruited through Amazon's Mechanical Turk (MTurk). The experiment proceeded in two sections, the first focusing on the government shutdown and the second focusing on trade[10]. Respondents were asked to complete a pre-treatment survey that focused on standard demographic and political variables. After completing these questions, respondents were then placed into one of three random groups for the shutdown portion of the experiment before proceeding to the shutdown post-treatment survey. One group, the control group, was sent directly to the first post-treatment questionnaire. The second group was given a story about the effects of the 2018-2019 government shutdown written by the New York Times. The story focused on some of the personal effects of the shutdown on a variety of Americans. A number of agencies and the various effects their partial operations would have were highlighted, such as the I.R.S., Secret Service, and others. The third group was given the executive summary of a report written by the Congressional Budget Office on the effects of the shutdown. This report represented a much more technical description of the effects, such as a detailed discussion of the effects that the shutdown and delayed government spending had on gross domestic product. After reading the given prompts, respondents then answered a series of questions regarding their thoughts on the effects of the government shutdown, as well as whether they thought government shutdowns were appropriate tools for the President to wield to achieve their legislative agenda.

[10] Each of the four prompts shown to respondents are included in Appendix B.

After completing these questions, respondents then moved on to the second portion of the experiment which focused on trade policies. Again, the respondents were separated into three groups, with one group immediately proceeding to the post-treatment questions. As was done with the shutdown portion, a second group was given a story on the effects of President Trump's trade policies on Wisconsin milk producers. This story was also written by the New York Times and focuses on the personal effects of the policies on farmers in the state. The story discussed the growing difficulty farmers in the industry faced in the lead up to the increased tariffs, and how the policies have exacerbated these difficulties. The third group was given the executive summary and conclusion of a report written by Agribusiness Consulting on the effects of the policies on the dairy sector of the nation. As was the case with the CBO report on the shutdown, this report was written in a much more technical manner than the New York Times story presented to the other group of respondents. An emphasis was placed on the change in the price of milk products as a result of these policies and the risks these price drops pose on job loss in the future. After reading the provided prompts, the respondents then answered a series of questions on the merits and effects of international trade and current and future levels of unemployment. The survey concluded with a set of questions on political and economic issues that were not directly related to either the government shutdown or international trade.

The Representativeness of MTurk

Since Amazon's MTurk has emerged as a tool for sample collection, a necessary debate has existed in the academic community as to its utility. Certainly, the samples collected via MTurk do not perfectly represent the American public at large, however, their utility as tools for scientific inquiry, and even specifically in political science, has been supported by many

researchers over the past few years, as long as researchers keep the shortcomings of such a method in mind when conducting their research. In general, the differences between an MTurk collected sample and a sample collected via more traditional methods appear to be stable. According to Levay et al. (2016), "MTurk samples tend to have lower average incomes, higher average education levels, lower average ages, and much smaller percentages of most non-White groups, especially Blacks… with MTurk samples frequently containing more Democrats and liberals than population-based samples", however, these differences can largely be accounted for through the inclusion of several demographic and political controls.

An additional concern stems from the fact that MTurk participants must opt-in to take the surveys, raising questions as to whether or not those who participate in MTurk surveys are fundamentally different than the general public and thus reducing the validity of studies conducted using samples collected in this method. The possibility that ideological differences may exist between conservatives and liberals on MTurk and conservatives and liberals in the public at large was tested by Clifford, Jewell, and Waggoner (2015), who compared the values of those who took a MTurk survey to those from two nationally representative studies, and found that "the same values and personality traits that motivate ideological differences in the mass public also divide liberals and conservatives on MTurk". Additionally, MTurk respondents appear to be more representative of the nation than other convenience samples commonly used by researchers, and the respondents "appear to respond to experimental stimuli in a manner consistent with prior research" (Bernisky, Huber, and Lenz 2012).

The sample collected with the June 2019 MTurk survey reflected many of the expected deviations in sample representativeness. Of the 466 respondents who completed the experiment, 46.1% were female and the median age of respondents was 34. This represents a younger and

more male sample than the one collected in the February 2019 survey that was conducted earlier in this research. Additionally, the respondents from the June 2019 MTurk collected sample were more educated than those in the previous survey, with the median respondent having at least a bachelor's degree. In terms of racial and ethnic representation, 13.3% of respondents stated that they identified as African-American, similar to the 13.6% in the February 2019 survey, however, only 5.2% of respondents indicated that they identified as Hispanic, representing the difficulties in collecting data on some groups identified by previous research on the effectiveness of research done via MTurk. The sample was also slightly more Democratic in registration than was the February survey, again expected given previous research. Approximately 39.3% of respondents indicated that they were registered with the Democratic Party, with 29.8% registered with the Republican Party, and the rest registered either as independents or with third parties. In terms of economic status, the respondents were slightly better off than were those in the previous survey, with the median income response being between $50,000 and $59,999 per year. Additionally, just 2.4% of respondents indicated that they were out of work and looking, lower than the most recently reported unemployment rate of 3.6% released at the beginning of June. The June 2019 survey also included the same set of economic knowledge questions that were included on the original survey. The respondents to the June survey, being wealthier and more highly educated, expectedly scored higher on the economic knowledge quiz than did those from the February 2019 survey, however, the results were largely in line with each other. Respondents were able to correctly answer less than half of the questions asked of them, with the average score being 7.25, or 48.3%.

Results

To test the effect of economic knowledge on how information is processed, I begin by analyzing the results of the government shutdown portion of the experiment. Again, respondents were either asked to read one of two informational prompts (both of which are available in Appendix B) before proceeding to the post-treatment survey or were simply immediately sent to the post-treatment survey. The questions in the first post-treatment survey focused primarily on the respondent's feelings on the effect of the shutdown on the economy and the effectiveness and validity of leveraging shutdowns for political gain. Three sets of logit models were created to test for the effect of the experimental prompts on opinions on these issues. The first set tested the effects of the models overall, controlling for economic knowledge. Two subsets of the overall data were then created: one representing those who scored in the bottom third on the economic knowledge scale (those who scored five or less), and the other representing those who scored in the top third (those who scored nine or more). This allows me to compare how low and high knowledge respondents react to different kinds of information.

The results from the first set of models, those estimated with the full sample, are shown in Table 6.1. Looking first at the question of whether the reasoning behind the shutdown (the refusal of the President to agree to any budget proposal that did not include funding for a southern border wall) was valid, the party and ideological variables affected responses as expected. Those with stronger attachments to the Republican Party, as well as those who were more conservative, were more likely to state that the reasoning behind the shutdown was valid. Given the political atmosphere surrounding the issue at the time, this is not at all a surprising finding. Neither of the experimental prompts, however, showed to have any effect on opinions on this matter. That is, opinion was not swayed by technical or news reports of the shutdown's

effects on feelings towards whether it was valid. This may reflect the more political nature of the question at hand, that of the validity of shutting down the government as a political tool. The second question asked whether respondents believed that the shutdown had slowed economic growth, a more direct and less political question than that questioning the validity of the motivations of the shutdown. Once again, party attachment showed an expected effect, with increasing attachment to the Republican Party reducing the likelihood that a person would state that the shutdown did slow down growth. Unlike the first question, however, significant effects were found for both experimental prompts. Both the news report and technical prompts increased the likelihood of respondents believing that the shutdown slowed economic growth. This is likely due to the more direct economic nature of the question. Rather than asking about the political causes, the question focused solely on the economic consequences. The final two questions, on whether the President should threaten to shut down the government again in the future and whether the President should circumvent the Congress and declare a national emergency to fund the southern border wall, showed results similar to the validity question. The politically motivated nature of these questions led to expect ideological and party results, while neither of the informational prompts seemed to have any effect on these questions. These results show that thoughts on the shutdown seem to be largely motivated by political factors rather than economic factors, as long as the question was not too directly related to economic affairs and instead focused on the political aspects of the dispute.

The second set of models, shown in Table 6.2, estimated these effects using only those respondents who were in the bottom third on the economic knowledge scale. The expectations set out earlier stated that low knowledge voters would be more likely to respond to information from a news source, given its higher ease of understanding, while they would be less likely to

respond to the more technical prompts. In general, the results of these estimates reflected the results from the overall model. The party attachment variable expectedly showed that stronger Republicans were more likely to believe that the shutdown was valid, that the President should threaten more shutdowns in the future, and that the President should declare a national emergency to secure funding for the southern border wall. On the question of whether the shutdown slowed the economy, however, the party effects did not exist. Additionally, contrary to expectations, both prompts showed significant effects increasing the likelihood that a person would state that the shutdown slowed growth. The prompts showed no significant effect on the other questions. The final set of models, those estimated with only the highest third of economically knowledgeable respondents, however, showed slightly different results on the effect of the informational prompts. These results are shown in Table 6.3. The prompts showed no effect for high information voters on any of the questions, including the question about whether the shutdown slowed growth. This provides with the first interesting bit of insight into how the two knowledge groups respond differently to information, although the findings are slightly different than expected. Rather than finding that low knowledge voters respond to easier to understand information and that high knowledge voters respond to more technical information, it appears that low information voters are simply more likely to respond to information of any sort. While this is contrary to stated expectations before, it is not completely surprising. It is well known that those with high levels of political knowledge are more likely to pay attention to affairs and to be exposed to information (Zaller 1992), and as such, providing them with more information may not alter their set of considerations as much as someone who is not as tuned into what is going on and for whom the added information may contain the most weight.

This analysis process was then replicated for the international trade portion of the experiment. After reading either a technical or news story prompt about the effect of President Trump's trade policies on the United States dairy industry, respondents were asked a series of questions on their feelings towards how the United States should approach trade policy, the benefits of such policies, and possible changes in past or future unemployment. Once again, results were estimated using the full sample, a sample consisting of only the bottom third of respondents, and a sample consisting of only those in the top third. The results from the full sample models are shown in Table 6.4. The first question regarded the respondent's thoughts on whether the United States should limit imports coming into the country. Party attachment once again showed a significant effect, with those with a stronger attachment to the Republican Party indicated that imports should be limited. The informational prompts showed mixed results. Those who received the news prompt were not significantly more or less likely to state that trade should be restricted, however, those who received the technical prompt were less likely to believe that imports should be limited. The second model estimated changes in the belief that international trade is good overall. Once again, the party attachment variables showed an expected relationship, with Republicans less likely to believe that trade is good. Additionally, the ideology variable showed a significant effect as well, with conservatism also being linked to a lower likelihood to believe that trade is good. Unlike the first model, however, neither of the prompts showed significant effects. The final two models estimated the effects on retrospective and prospective unemployment change. No significant effects were shown for retrospective unemployment, likely due to knowledge of the strong labor market present at the time of the survey. On the question of prospective unemployment, however, differences were seen. When asked whether they believed the unemployment situation in the coming year would be better or

worse than it is currently, party attachment was once again expectedly significant, with Republicans being more likely to believe the unemployment situation would be better given the strength of their party attachment. For the first time, economic knowledge itself was also found to have a significant effect in these models, with increasing knowledge being positively related to the dependent variable. While no effect was found for information from news reports, technical information was found to have an effect. Those who had received the technical prompt were less likely to state that unemployment would get better than were those who received either the news prompt or were in the control group. In general, the results from these overall models suggest that thoughts on trade, an issue which may be more directly related to economics and less to politics in some ways than the shutdown, can be influenced by different types of information, but that the information that appears to be the most effective at doing so is of the more technical fashion.

The second set of models were estimated on the bottom third subset and are shown in Table 6.5. Unlike in the full sample models, party attachment lost significance across each of the four models, and ideology only showed significance in the prospective unemployment model. While these differences existed, the same pattern emerged for the effectiveness of the informational prompts. Technical information reduced the belief that imports should be limited and decreased the likelihood of a respondent indicating that unemployment will be better in the coming year while showing no effect on the other two questions. Once again, information from the news story did not influence any of the questions. This again was contrary to the expectation that low knowledge respondents would be more likely to react to the easier to understand information, with the news prompt showing no effect at all across any of the models. The final set of models tested the effects of information on trade policy opinions for just the subset with

the highest levels of economic knowledge. Party attachment only showed a significant effect on the question of limiting imports, increasing the likelihood of believing they should be limited as a person's attachment to the Republican Party increases. This model also showed significant effects for those who received the technical prompt, showing that receiving this information decreasing the likelihood. This is the only model, however, in which these effects are shown. Once again, those with the highest level of economic knowledge appear to be less likely to respond to any kind of information, regardless of the nature of it. This once again supports the idea that the effect of knowledge generally only falls on those with the least economic knowledge, who are less likely to be exposed to information in the first place and for whom the provided information may cause the greatest shift in the types of considerations being used to form their judgments. An additional bit of normatively positive information appears to come from these results, as well. It was expected that news reports would be the primary driver of low knowledge voters, however, it was only technical information that ever showed any effects across any group.

Conclusion

At the beginning of this chapter, the expectation was set that economic knowledge would significantly affect now only how people respond to information, but also the type of information they would respond to. Specifically, it was believed that low knowledge voters would be more likely to respond to news stories, such as those shared through news organizations and which may be spread via social media platforms, as they were easier to digest and more widely shared and available than more technical reports, while it would be more highly knowledgeable voters who would be likely to respond to the technical reports written by government agencies and

economic research organizations. I have already shown that asymmetries exist in the ability of citizens to form opinions on certain issues depending on what they know, so to also find that their level of knowledge also asymmetrically impacts how they respond to information would not be surprising. The results, however, presented a different picture of how Americans respond to economic information.

While there does appear to be a gulf between how information effects high and low knowledge respondents, there does not appear to be a situation in which opinion change is primarily driven by news reports alone, even among lower knowledge voters. Instead, the type of information that showed the most consistent effects across questions and groups was technical information. That even the low knowledge voters were able to take in the information presented to them and to have their opinions reflect expected changes based upon the content and situations covered in the prompts, suggests that knowledge shortcoming may be overcome simply by providing respondents with more economic information. While this may sound obvious, it is important to note that the presentation of information matters. By presenting people with technical information about economic change rather than information driven by the stories of people and how different circumstances may be impacting them, officials may be able to help the general public overcome the existing shortcomings of their knowledge.

With that understood, the shortcomings of this experiment and its design must be recognized. The first shortcoming is, obviously, the limitations that come with the sample collection method. While the validity of experiments conducted via MTurk has been supported by previous research, there is little doubt that a more desirable sample collection method would be welcomed in future research into how people respond to information. Additionally, there was no way to test for the effect of times on opinion. Respondents were immediately asked to

respond to the post-treatment surveys after reading the prompts, which does not allow me to test how these effects may amplify or decay as people have more time to consider the information presented. Finally, I was not able to test how other situations may affect these attitudes. Despite these limitations, the results from this experiment paint a slightly more glowing picture of the American public than was expected. These results should be encouraging as studies into the role of economic knowledge continue, as deficiencies that are found in the public are likely not insurmountable, and with proper strategy and information framing, the public can be influenced by more than just the stories they see on social media.

Tables and Figures

Table 6.1: The Effect of Technical Information and News Reports on Feelings Towards the Government Shutdown

	Shutdown was Valid	Shutdown slowed growth	Should Threaten Shutdown	Should declare emergency
(Intercept)	-2.348***	1.919**	-1.666*	-2.401***
	(0.669)	(0.688)	(0.665)	(0.659)
Age	-0.001	0.002	-0.006	0.011
	(0.012)	(0.012)	(0.012)	(0.011)
Female	-0.717**	0.268	-0.757**	-0.828***
	(0.252)	(0.261)	(0.253)	(0.251)
African-American	0.386	0.266	0.712 +	0.718 +
	(0.380)	(0.467)	(0.375)	(0.380)
Hispanic	0.513	0.961	-0.034	-0.189
	(0.524)	(0.688)	(0.547)	(0.556)
Education	-0.013	0.252*	-0.132	-0.085
	(0.096)	(0.102)	(0.098)	(0.096)
Income	-0.089 +	-0.042	-0.043	-0.003
	(0.046)	(0.046)	(0.045)	(0.044)
Married	0.848**	-0.077	0.744**	0.741**
	(0.271)	(0.289)	(0.270)	(0.263)
Party Attachment	0.265***	-0.392***	0.241**	0.331***
	(0.077)	(0.096)	(0.077)	(0.077)
Ideology	0.169***	-0.056	0.176***	0.172***
	(0.045)	(0.052)	(0.045)	(0.046)
Evangelical	1.360***	0.635*	1.314***	1.190***
	(0.270)	(0.319)	(0.270)	(0.272)
News Prompt	0.011	0.833**	0.371	0.051
	(0.290)	(0.309)	(0.289)	(0.287)
Technical Prompt	0.023	0.801**	-0.229	-0.172
	(0.292)	(0.307)	(0.299)	(0.291)
Econ. Knowledge	-0.006	-0.060	-0.035	-0.070
	(0.292)	(0.047)	(0.045)	(0.045)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	467.842	427.471	464.633	473.572
BIC	521.717	485.489	522.652	531.590
N	466	466	466	466

Table 6.2: The Effect of Technical Information and News Reports on Feelings Towards the Government Shutdown on Low Economic Knowledge Voters

	Shutdown was Valid	Shutdown slowed growth	Should Threaten Shutdown	Should declare emergency
(Intercept)	-2.823*	0.513	-3.435*	-3.219**
	(1.390)	(1.208)	(1.443)	(1.226)
Age	0.028	-0.003	0.031	0.032
	(0.031)	(0.027)	(0.031)	(0.026)
Female	-1.593**	-0.081	-1.557**	-1.303**
	(0.566)	(0.512)	(0.545)	(0.474)
African-American	1.870*	-0.547	2.195**	1.801**
	(0.778)	(0.825)	(0.770)	(0.656)
Hispanic	0.474	16.285	0.856	-1.095
	(1.011)	(1252.829)	(0.940)	(1.188)
Education	-0.335 +	0.352 +	-0.349 +	-0.204
	(0.185)	(0.195)	(0.184)	(0.157)
Income	-0.252*	-0.099	-0.155	0.106
	(0.110)	(0.100)	(0.104)	(0.085)
Married	1.875**	0.885	1.601**	0.470
	(0.597)	(0.581)	(0.558)	(0.470)
Party Attachment	0.378*	-0.262	0.559**	0.432**
	(0.170)	(0.163)	(0.182)	(0.142)
Ideology	0.276**	0.012	0.173 +	0.091
	(0.105)	(0.107)	(0.099)	(0.083)
Evangelical	2.201***	0.566	2.052***	1.293*
	(0.592)	(0.658)	(0.603)	(0.508)
News	0.137	1.871**	0.863	-0.263
	(0.627)	(0.713)	(0.616)	(0.540)
Technical	0.117	1.186*	-0.487	-0.448
	(0.594)	(0.557)	(0.593)	(0.520)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	139.388	137.880	142.544	171.052
BIC	178.440	176.931	181.595	210.103
N	149	149	149	149

Table 6.3: The Effect of Technical Information and News Reports on Feelings Towards the Government Shutdown on High Economic Knowledge Voters

	Shutdown was Valid	Shutdown slowed growth	Should Threaten Shutdown	Should declare emergency
(Intercept)	-5.131**	3.725**	-4.305**	-5.148**
	(1.626)	(1.416)	(1.598)	(1.733)
Age	0.017	-0.007	0.015	0.041 +
	(0.022)	(0.020)	(0.022)	(0.024)
Female	-0.371	-0.097	-0.460	-0.395
	(0.541)	(0.502)	(0.551)	(0.573)
African-American	-1.024	0.819	-0.942	-0.198
	(1.043)	(1.157)	(1.025)	(1.046)
Hispanic	-0.428	0.575	-0.281	-0.057
	(1.536)	(1.311)	(1.510)	(1.680)
Education	0.191	-0.068	0.063	-0.146
	(0.218)	(0.205)	(0.223)	(0.236)
Income	-0.114	0.060	-0.067	-0.094
	(0.095)	(0.093)	(0.097)	(0.105)
Married	0.634	-0.898	0.579	1.158 .
	(0.586)	(0.562)	(0.581)	(0.615)
Party Attachment	0.569***	-0.637***	0.475**	0.579***
	(0.161)	(0.185)	(0.159)	(0.170)
Ideology	0.202*	-0.055	0.238*	0.246*
	(0.095)	(0.105)	(0.094)	(0.102)
Evangelical	0.625	1.500*	0.636	0.422
	(0.578)	(0.639)	(0.580)	(0.606)
News	0.206	0.190	-0.124	0.335
	(0.613)	(0.560)	(0.602)	(0.639)
Technical	0.299	0.779	-0.316	-0.205
	(0.643)	(0.639)	(0.652)	(0.696)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	135.123	143.423	134.748	125.641
BIC	173.999	182.299	173.624	164.517
N	147	147	147	147

Table 6.4: The Effect of Technical Information and News Reports on Feelings Toward President Trump's Trade Policies and their Effects

	Should limit imports	Increased trade is good	Unemployment has gotten worse	Unemployment will get better
(Intercept)	-2.977***	0.354	-0.458	-3.309***
	(0.657)	(0.579)	(0.767)	(0.754)
Age	0.012	0.010	-0.030*	-0.007
	(0.011)	(0.010)	(0.014)	(0.012)
Female	-0.389	-0.291	0.030	0.229
	(0.238)	(0.214)	(0.276)	(0.272)
African-America	0.320	0.532	0.262	0.336
	(0.361)	(0.365)	(0.417)	(0.434)
Hispanic	0.385	0.471	0.155	-0.989
	(0.525)	(0.487)	(0.546)	(0.799)
Education	-0.081	0.113	0.030	-0.076
	(0.093)	(0.085)	(0.112)	(0.109)
Income	0.040	0.035	-0.106*	0.046
	(0.043)	(0.039)	(0.053)	(0.047)
Married	0.695**	0.391	-0.024	0.098
	(0.256)	(0.241)	(0.321)	(0.300)
Party Attachment	0.290***	-0.170*	0.054	0.228*
	(0.074)	(0.070)	(0.092)	(0.093)
Ideology	0.024	-0.091*	-0.096	0.095 +
	(0.043)	(0.043)	(0.063)	(0.053)
Evangelical	1.235***	0.206	-0.447	-0.423
	(0.265)	(0.259)	(0.353)	(0.331)
Econ. Knowledge	-0.001	0.046	0.032	0.125**
	(0.043)	(0.039)	(0.049)	(0.048)
News	0.113	-0.410	0.047	-0.253
	(0.278)	(0.260)	(0.344)	(0.314)
Technical	-0.521 +	-0.295	0.444	-0.690*
	(0.291)	(0.260)	(0.323)	(0.342)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	496.334	572.200	402.481	399.517
BIC	554.353	630.218	460.500	457.535
N	466	466	466	466

Table 6.5: The Effect of Technical Information and News Reports on Feelings Toward President Trump's Trade Policies and their Effects on Low Economic Knowledge Respondents

	Should limit imports	Increased trade is good	Unemployment has gotten worse	Unemployment will get better
(Intercept)	-1.365	-0.653	-1.493	-0.460
	(1.118)	(1.042)	(1.514)	(1.479)
Age	0.006	0.032	-0.024	-0.069 +
	(0.023)	(0.024)	(0.034)	(0.038)
Female	-0.391	-0.510	0.035	0.293
	(0.424)	(0.393)	(0.553)	(0.592)
African-American	0.638	1.311*	-0.356	0.399
	(0.566)	(0.607)	(0.800)	(0.828)
Hispanic	-0.799	0.220	1.541 +	-16.540
	(1.138)	(0.801)	(0.875)	(1251.910)
Education	-0.274 +	-0.052	0.263	-0.166
	(0.154)	(0.138)	(0.199)	(0.209)
Income	0.077	0.053	-0.085	0.066
	(0.080)	(0.075)	(0.106)	(0.107)
Married	0.531	0.716 +	0.069	-0.192
	(0.445)	(0.409)	(0.563)	(0.611)
Party Attachment	0.154	-0.094	0.077	0.202
	(0.116)	(0.118)	(0.170)	(0.172)
Ideology	0.026	0.057	-0.176	0.208*
	(0.072)	(0.081)	(0.135)	(0.106)
Evangelical	1.047*	-0.494	-0.441	-0.702
	(0.496)	(0.461)	(0.665)	(0.742)
News	0.062	0.100	-0.410	-0.380
	(0.472)	(0.453)	(0.677)	(0.628)
Technical	-0.902 +	-0.089	0.616	-1.934*
	(0.533)	(0.465)	(0.604)	(0.917)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	185.155	208.558	139.492	115.264
BIC	224.206	247.609	178.543	154.315
N	149	149	149	149

Table 6.6: The Effect of Technical Information and News Reports on Feelings Toward President Trump's Trade Policies and their Effects on High Economic Knowledge Respondents

	Should limit imports	Increased trade is good	Unemployment has gotten worse	Unemployment will get better
(Intercept)	-4.524***	1.537	-1.430	-4.362**
	(1.343)	(1.147)	(1.583)	(1.353)
Age	0.025	0.013	-0.012	0.007
	(0.020)	(0.018)	(0.023)	(0.020)
Female	0.116	-0.507	0.524	0.556
	(0.483)	(0.425)	(0.542)	(0.466)
African-American	-0.186	-0.097	0.713	0.844
	(0.886)	(0.747)	(0.806)	(0.785)
Hispanic	0.982	-0.246	-15.269	-0.603
	(1.256)	(1.074)	(1522.978)	(1.270)
Education	0.076	-0.038	-0.028	0.175
	(0.203)	(0.171)	(0.220)	(0.205)
Income	-0.038	0.091	-0.035	0.075
	(0.091)	(0.077)	(0.104)	(0.085)
Married	0.588	0.383	-1.127	0.177
	(0.548)	(0.518)	(0.781)	(0.520)
Party Attachment	0.588***	-0.208	0.192	0.205
	(0.162)	(0.147)	(0.205)	(0.154)
Ideology	-0.047	-0.204*	-0.286 +	0.142
	(0.096)	(0.091)	(0.158)	(0.091)
Evangelical	0.940 +	1.189*	-0.089	0.236
	(0.533)	(0.531)	(0.674)	(0.520)
News	0.167	-0.444	0.169	-0.474
	(0.578)	(0.537)	(0.783)	(0.581)
Technical	-1.121 +	-0.529	1.127	-0.334
	(0.650)	(0.550)	(0.707)	(0.593)
+ significant at p < .1, * p < .05, ** p < .01, *** p < .001				
AIC	151.438	177.746	124.492	154.361
BIC	190.313	216.621	163.368	193.237
N	147	147	147	147

Chapter 7: Conclusion

In the final paragraph of Delli Carpini and Keeter's *What Americans Know About Politics and Why it Matters* (1996, 290), the authors state "[i]n a world where reason prevails, information is power. Those with more information, ceteris paribus, will be more powerful". There is no doubt that in a system of government in which the people are supposed to govern themselves, it is necessary that the people have knowledge of what is going on in the world, for if they do not, then how can they be expected to make the most efficient decisions? Delli Carpini and Keeter, and many others since, have continued to show that the public seems to lack basic knowledge about politics and the functioning of government, and while some have argued that voters are able to rely on mental shortcuts to overcome many of these shortcomings, it has also been shown that drastic differences exist in the behavior and opinions of those with the most information and those with the least.

The purpose of this study was to show how this knowledge gap extends to what is perhaps the most universal issue that Americans must consider, that of the economy. Everyone is affected by the economy in one way or another, and as such the issue and our perceptions of it play a vital role in the politics of the nation. The results of this dissertation continue to show how limited knowledge of world affairs, specifically the economy, is affecting American democracy's ability to function. The results are no more promising than those commonly found for general knowledge, with economic knowledge being a resource that is, like so many other resources political scientists consider important, a possession of those who already have many of the other resources necessary to make those decisions that clearly reflect their best interests.

Revisiting the Main Findings

The analysis began with an investigation into what and how much people know about the economy, anchored by a nationally representative survey that was conducted in February of 2019. The results showed that economic knowledge, like general political knowledge, is generally low in the public and favors those who already have the resources that allow them to be active participants in society. On average, respondents were able to answer less than half of the economic knowledge questions presented to them, with those who had more education, made more money and paid more attention to the news and politics were more likely to score higher on the quiz. When compared to the predictors of general knowledge, it was shown that education and income had an even greater effect on economic knowledge than it did on general political knowledge. The changing environment in which people gather their information also showed a negative impact on knowledge, with increased usage of websites such as Reddit significantly decreasing knowledge among the public. Taken altogether, the results from this survey support the idea that a clear divide exists between the haves and the have nots in terms of economic knowledge in American society.

I then shifted focus to understanding the consequences of this knowledge gap. The effects materialize in a number of ways, most notably by significantly shifting how people feel on a number of economic issues away from how they would feel were they hypothetically fully informed on economic affairs. These findings solidified the discrepancies in the abilities of citizens to form meaningful opinions on issues depending on their possession of various resources. Additionally, concerns about citizens self-reinforcing their own economic problems by the political decisions they make exist. However, there was one area in which economic knowledge did not seem to show an effect on opinion, raising a new set of concerns. This was on

the formation of opinions on the state of the economy. These economic perception variables, which have long been shown to be significant predictors of things such as presidential approval and vote choice, were in no way related to economic knowledge, and instead were strongly related to our party attachment. Instead of basing of perceptions of the state of the economy on real economic changes, we are basing them on our partisan predispositions. In an increasingly polarized environment and an economy in which economic perceptions can become economic reality, several concerns exist due to the lack of a relationship between perceptions and what we know.

Another area in which knowledge appears to have little to no impact is presidential approval. Economic knowledge as a predictor of approval itself showed no effect on presidential approval, and when used as a control in more traditional approval models, the inclusion did not seem to change behavior in any significant way. This finding alone is surprising based upon a reading of earlier research into the effect of economic perceptions on vote choice and approval. Many of these studies relied on the assumption that knowledge was the driving factor behind the behavior they were observing. The assumption in much of the literature was that knowledge was the reason why voters acted in either a retrospective or prospective manner or why they voted based on sociotropic considerations rather than pocketbook changes. Yet, when directly tested little to no influence was found for economic knowledge.

Finally, I examined the ways in which knowledge of the economy mediated how we respond to different types of information on the issue. Specifically, I tested whether or not knowledge affected whether some people were more likely to respond to easier to understand news stories versus more technical information written by government organizations or research groups. While the expectation was that the easier to understand information would be the

primary mover of opinion for those with low levels of knowledge and that the technical information would be the mover of those with high levels of knowledge, I instead found that technical information showed the most consistent effects, with those with the lowest levels of knowledge appearing to benefit the most.

Overall, the findings of this study provide important insight into an aspect of political behavior that has deep implications. We are all affected by the economy, and yet many of us know little about it. We all have opinions on economic issues, and yet many of these feelings may not reflect how we would actually feel were we more informed citizens. We all consider the economy when forming our evaluations of the president or who to vote for, and yet the perceptions that we use to make these evaluations may not even be based on actual economic reasoning but instead may just an extension of our partisan identities that we mask as something else. Economic knowledge significantly alters how we view the economic world, and yet the possession of this information is condensed in an elite few. However, hope does exist that some of these shortcomings can be overcome, as even low knowledge individuals appear to be able to react to technical information.

Limitations and Future Directions

While the results from this study provide strong evidence that economic knowledge is unevenly distributed across the public and has a significant effect on public opinion, I must recognize the limitations that exist. For instance, while the timing of the study allowed me to explore most of the questions I had regarding these interactions, perhaps the most obvious effect that could not be tested is how economic knowledge affects how we form our actual vote choice. While it may be assumed that this relationship is similar to how evaluations of presidential

approval are made, as is the case in many of the existing economic voting and approval research, it cannot simply be assumed without testing in future studies. While no change was found in how people use their perceptions of the economy to judge the job of the president when I considered economic knowledge, it may be found that changes do occur when forming vote choice. However, given my findings that these perceptions are also not based in economic reality, the true implications of such a finding are unclear. Additionally, while I was able to use data from two different points in time during my study, I also cannot discount the possibility that different effects may materialize themselves when studied over a longer period of time. There does exist a possibility that many of the findings reported in this research surrounding presidential approval are an artifact of the current occupant of the White House. President Trump's tenure in office has been incredibly polarizing, and only time will tell whether or not the lack of findings regarding presidential approval are the result of attitudes that are firmly in place already.

Future research in this area must focus on the effects during presidential election, as well as whether these effects are consistent across time. Additionally, the issue of blame attribution has long been of interest to researchers. While existing research has generally shown that our party attachment is the primary driver of who we blame for economic conditions, interesting questions exist over how strong partisanship may be after considering the effects of economic knowledge. Perhaps the low knowledge voters do rely more heavily on their partisan predispositions, but high knowledge voters may be more hesitant to cast blame based with due cause. Another avenue for future research concerns a deeper look into how economic perceptions are formed and what implications exist for actual economic behavior. The findings reported in this dissertation suggest that these perceptions are more the result of a person's partisan attachment rather than what they actually know about the economy, but the story is likely deeper

than just party. There does exist some research that suggests that these perceptions are moved by actual changes in economic performance (Lewis-Beck et al. 2013), but overall this question has been largely ignored by literature as a whole.

The question of what Americans know about the economy is one of upmost importance. The economy, as has been stated many times, is an issue that affects every American, every day. As such, it has long been established in the political science literature that the economy plays a central role in political decision making, however this research shows that people are often doing so with limited knowledge on the topic, leading to suboptimal decisions in many areas. Future research into the role of economic knowledge, and of domain specific knowledge in general, will continue to unravel the consequences of uneven knowledge and how these problems may be overcome. Until then, however, we must realize that the American democracy is operating in a way differently than it may in a fully informed world.

Appendix A: February 2019 Economic Knowledge Survey

1. How old are you?
2. Are you male or female?
3. What state do you live in?
4. What racial or ethnic group best describes you?
    a. White
    b. Black or African-American
    c. Asian or Asian-American
    d. Native American
    e. Mixed Race
    f. Spanish, Hispanic, or Latino
    g. Other (please specify)
5. What is the highest level of school you have completed or the highest degree you have received?
    a. Less than high school degree
    b. High school graduate (high school diploma or equivalent including GED)
    c. Some college but no degree
    d. Associate degree in college (2-year)
    e. Bachelor's degree in college (4-year)
    f. Master's degree
    g. Doctoral degree
    h. Professional degree (JD, MD)
6. Information about income is very important to understand. Would you please give your best guess? Please indicate the answer that includes your entire household income in 2018 before taxes.
    a. Less than $10,000
    b. $10,000 to $19,999
    c. $20,000 to $29,999
    d. $30,000 to $39,999
    e. $40,000 to $49,999
    f. $50,000 to $59,999
    g. $60,000 to $69,999
    h. $70,000 to $79,999
    i. $80,000 to $89,999
    j. $90,000 to $99,999
    k. $100,000 to $149,999
    l. $150,000 to $199,999
    m. $200,000 or more
7. Are you now married, widowed, divorced, separated or never married?
    a. Married
    b. Widowed
    c. Divorced

    d. Separated
    e. Never married
8. Which statement best describes your current employment status?
    a. Working (paid employee)
    b. Working (self-employed)
    c. Not working (temporary layoff from a job)
    d. Not working (looking for work)
    e. Not working (retired)
    f. Not working (disabled)
    g. Student
    h. Not working (other)
9. Do you or anyone else in your household belong to a labor union or to an employee association similar to a union?
    a. Yes
    b. No
10. How would you describe your social class?
    a. Lower class
    b. Working class
    c. Middle class
    d. Upper class
11. What political party are you registered with, if any?
    a. Democratic Party
    b. Republican Party
    c. No party or 'independent'
    d. Other (Green, Libertarian, etc.)
12. Where would you place yourself on the scale below?
    a. Strong Democrat
    b. Not strong Democrat
    c. Lean Democrat
    d. Independent
    e. Lean Republican
    f. Not strong Republican
    g. Strong Republican
13. In general, how would you describe your own political viewpoint?
    a. Very liberal
    b. Liberal
    c. Somewhat liberal
    d. Moderate
    e. Somewhat conservative
    f. Conservative
    g. Very conservative
14. How often do you pay attention to what is going on in government and politics?
    a. Never

b. Some of the time
c. About half of the time
d. Most of the time
e. Always

15. Would you describe yourself as a "born again" or evangelical Christian, or not?
    a. Yes, would
    b. No, would not
16. Aside from weddings and funerals, how often do you attend religious services?
    a. Never
    b. Seldom
    c. A few times a year
    d. Once or twice a month
    e. Once a week
    f. More than once a week
17. On average, how often do you read the front section of a newspaper, watch news coverage on television, or read news content on the internet?
    a. Never
    b. Less than once a month
    c. About once a month
    d. 2-3 times a month
    e. Once a week
    f. 2-3 times a week
    g. Daily
18. Which source do you most often use to get the news?
    a. Television
    b. News websites
    c. Radio
    d. Newspapers
    e. Social media (Facebook, Twitter, etc.)
    f. Other
19. Of the following sources, which do you believe is the most trustworthy?
    a. CNN
    b. Fox News
    c. MSNBC
    d. None of these sources are trustworthy
    e. All of these sources are trustworthy
20. Of the following sources, which would you be most likely to use to learn more about events going on in national politics?
    a. CNN
    b. Fox News
    c. MSNBC
    d. None of these sources

21. During a typical week, how many days do you use social media such as Twitter or Facebook?
    a. None
    b. One day
    c. Two days
    d. Three days
    e. Four days
    f. Five days
    g. Six days
    h. Several days
22. How much do you agree with the following statements? Social media sites such as Twitter and Facebook are my primary source of political information.
    a. Strongly disagree
    b. Somewhat disagree
    c. Neither agree not disagree
    d. Somewhat agree
    e. Strongly agree
23. During a typical week, how many days do you use news aggregation websites such as Reddit?
    a. None
    b. One day
    c. Two days
    d. Three days
    e. Four days
    f. Five days
    g. Six days
    h. Seven days
24. How much do you agree with the following statement? News aggregation sites such as Reddit are my primary source of political information.
    a. Strongly disagree
    b. Somewhat disagree
    c. Neither agree nor disagree
    d. Somewhat agree
    e. Strongly agree
25. Are you registered to vote?
    a. Yes
    b. No
26. In 2016 Hillary Clinton ran on the Democratic ticker against Donald Trump for the Republicans. Do you remember for sure whether or not you voted in that election?
    a. Yes, voted
    b. No, did not vote
    c. Unsure
27. Which candidate did you vote for?

a. Hillary Clinton
b. Donald Trump
c. Other

28. Do you feel the country is headed in the right direction or is on the wrong track?
    a. Right direction
    b. Wrong track
29. What do you think is the most important issue facing this country?
30. Do you approve or disapprove of the way the U.S. Congress has been handling its job?
    a. Strongly disapprove
    b. Disapprove
    c. Somewhat disapprove
    d. Neither approve nor disapprove
    e. Somewhat approve
    f. Approve
    g. Strongly approve
31. Do you approve or disapprove of the way Donald Trump is handling his job as president?
    a. Strongly disapprove
    b. Disapprove
    c. Somewhat disapprove
    d. Neither approve nor disapprove
    e. Somewhat approve
    f. Approve
    g. Strongly approve
32. Do you approve or disapprove of the way Donald Trump is handling the economy?
    a. Strongly disapprove
    b. Disapprove
    c. Somewhat disapprove
    d. Neither approve nor disapprove
    e. Somewhat approve
    f. Approve
    g. Strongly approve
33. Do you approve or disapprove of the way Donald Trump is handling relations with foreign countries?
    a. Strongly disapprove
    b. Disapprove
    c. Somewhat disapprove
    d. Neither approve nor disapprove
    e. Somewhat approve
    f. Approve
    g. Strongly approve
34. In general, how would you describe the political viewpoint of Donald Trump?
    a. Very liberal
    b. Liberal

c. Somewhat liberal
d. Moderate
e. Somewhat conservative
f. Conservative
g. Very conservative

35. In general, how would you describe the viewpoint of the Republican Party?
    a. Very liberal
    b. Liberal
    c. Somewhat liberal
    d. Moderate
    e. Somewhat conservative
    f. Conservative
    g. Very conservative
36. In general, how would you describe the viewpoint of the Democratic Party?
    a. Very liberal
    b. Liberal
    c. Somewhat liberal
    d. Moderate
    e. Somewhat conservative
    f. Conservative
    g. Very conservative
37. During the past year, would you say that the United States' position in the world has grown weaker, stayed about the same, or has it grown stronger?
    a. Weaker
    b. Stayed about the same
    c. Stronger
38. Do you agree or disagree with this statement: 'The world would be better off if we just stayed home and did not concern ourselves with the problems in other parts of the world.'
    a. Agree
    b. Disagree
39. Would you say that you and your family are much better off financially, somewhat better off, about the same, somewhat worse off, or much worse off than you were a year ago?
    a. Much better off
    b. Somewhat better off
    c. About the same
    d. Somewhat worse off
    e. Much worse off
40. Now looking ahead, do you think that a year from now you and your family will be much better off financially, somewhat better off, about the same, somewhat worse off, or much worse off than now?
    a. Much better off
    b. Somewhat better off
    c. About the same

    d. Somewhat worse off
    e. Much worse off
41. Do you think the difference in income between rich people and poor people in the United States today is larger, smaller, or about the same as it was 20 years ago?
    a. Larger
    b. Smaller
    c. About the same
42. Do you favor, oppose, or neither favor nor oppose the government trying to reduce the difference in incomes between the richest and poorest households?
    a. Favor
    b. Oppose
    c. Neither favor nor oppose
43. Do you favor, oppose, or neither favor nor oppose requiring employers to pay women and men the same amount for the same work?
    a. Favor
    b. Oppose
    c. Neither favor nor oppose
44. Some people have suggested placing new limits on foreign imports in order to protect American jobs. Others say that such limits would raise consumer prices and hurt American exports. Do you favor, oppose, or neither favor nor oppose placing new limits on imports?
    a. Favor
    b. Oppose
    c. Neither favor nor oppose
45. Has increased trade with other countries been good for the United States, bad for the United States, or neither good nor bad?
    a. Good
    b. Bad
    c. Neither good nor bad
46. Recently, some big American companies have been hiring workers in foreign countries to replace workers in the U.S. Do you think the federal government should discourage companies from doing this, encourage companies to do this, or stay out of the matter?
    a. Discourage
    b. Encourage
    c. Should stay out of this matter
47. What do you think about the state of the economy these days in the Unites States? Would you say the state of the economy is very good, good, neither good nor bad, bad, or very bad?
    a. Very good
    b. Good
    c. Neither good nor bad
    d. Bad
    e. Very bad
48. Would you say that over the past year the nation's economy has gotten better, stayed the same, or gotten worse?

a. Gotten better
b. Stayed about the same
c. Gotten worse

49. What about the next 12 months? Do you expect the nation's economy to get better, stay about the same, or get worse?
    a. Get better
    b. Stay about the same
    c. Get worse
50. Would you say that over the past year the level of unemployment in the country has gotten better, stayed about the same, or gotten worse?
    a. Gotten better
    b. Stayed about the same
    c. Gotten worse
51. How about people out of work during the coming 12 months- do you think that there will be more unemployment than now, about the same, or less?
    a. More
    b. About the same
    c. Less
52. Which party do you think would do a better job of handling the nation's economy?
    a. The Democratic Party
    b. The Republican Party
    c. Not much difference between them
53. How worried are you about losing your job in the near future?
    a. Not at all
    b. A little
    c. Moderately
    d. Very
    e. Extremely
54. Do you personally, or jointly with a spouse, have any money invested in the stock market right now?
    a. Yes
    b. No
55. How much opportunity is there in American today for the average person to get ahead?
    a. A great deal
    b. A lot
    c. A moderate amount
    d. A little
    e. None at all
56. Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be increase a lot, increase a little, left the same as it is now, decrease a little, or decrease a lot?
    a. Increased a lot
    b. Increased a little

c. Left the same is it is now
d. Decreased a little
e. decreased a lot

57. How likely is it that recent immigration levels will take jobs away from people already here?
    a. Extremely likely
    b. Very likely
    c. Somewhat likely
    d. Nor at all likely
58. In your opinion, when it comes to regulating the activities of banks, should the government be doing more, less, or the same as it is now?
    a. More
    b. Less
    c. The same
59. Which of the statements below comes closer to your view?
    a. We need a strong government to handle today's complex economic problems
    b. The free market can handle these problems without government being involved
60. How much government regulation of business is good for society?
    a. A great deal
    b. A lot
    c. A moderate amount
    d. A little
    e. None at all
61. When considering whether or not you believe the economy has gotten better or worse over the past 12 months, which factor do you believe is the most important to consider?
    a. GDP (Gross Domestic Product) growth or contraction
    b. Changes in the unemployment rate
    c. Changes in inflation
    d. Wage growth
62. When deciding who to vote for, how important is the economy?
    a. Extremely important
    b. Very important
    c. Moderately important
    d. Slightly important
    e. Not at all important
63. When assessing the performance of political leaders such as the President, how important is the economy?
    a. Extremely important
    b. Very important
    c. Moderately important
    d. Slightly important
    e. Not at all important

Here are some factual questions about the government and the economy. Many people do not know the answers to these questions, so please answer to the best of your ability. It is okay to get these questions wrong if you are not sure of the answer.

64. Mike Pence. What job or political office does he now hold?
    a. Speaker of the House of Representatives
    b. Chief Justice of the United States Supreme Court
    c. Chairman of the U.S. Federal Reserve
    d. Vice President of the United States
65. Vladimir Putin. What job or political office does he now hold?
    a. Speaker of the House of Representatives
    b. Chief Justice of the United States Supreme Court
    c. Chairman of the U.S. Federal Reserve
    d. Vice President of the United States
66. John Roberts. What job or political office does he now hold?
    a. Speaker of the House of Representatives
    b. Chief Justice of the United States Supreme Court
    c. Chairman of the U.S. Federal Reserve
    d. Vice President of the United States
67. Do you happen to know which party currently has more members in the House of Representatives?
    a. The Democratic Party
    b. The Republican Party
    c. Neither party has more members than the other
68. Do you happen to know which party currently has more members in the Senate?
    a. The Democratic Party
    b. The Republican Party
    c. Neither party has more members than the other
69. How much of a majority is required for the U.S. Senate and House to override a presidential veto?
    a. ½
    b. 2/3
    c. ¾
    d. 3/5
70. Whose responsibility is it to determine if a law is constitutional or not?
    a. The President
    b. The Congress
    c. The Supreme Court
71. Would you say that one of the parties is more conservative than the other at the national level?
    a. Neither party is more conservative
    b. The Democratic Party is more conservative
    c. The Republican Party is more conservative
72. According to the U.S. Department of Labor, the current unemployment rate is:

a. 2%
b. 3%
c. 4%
d. 5%

73. What is the currently federally mandated minimum wage?
    a. $6.25 per hour
    b. $7.25 per hour
    c. $10.10 per hour
    d. $15.00 per hour
74. According to the most recent estimates, the United States saw how much growth in GDP (Gross Domestic Product) during the most recently completed quarter?
    a. -2.4%
    b. -3.4%
    c. 2.4%
    d. 3.4%
75. According to the most recent estimates, inflation (the Consumer Price Index) for all urban consumers has increase how much from one year ago?
    a. 0.9%
    b. 1.9%
    c. 2.9%
    d. 3.9%
76. As of today, one Euro could buy about how many U.S. Dollars?
    a. $0.80 - $1
    b. $1.01 - $1.20
    c. $1.21 - $1.40
    d. $1.41 - $1.60
77. As of today, what is the value of the Dow Jones Industrial Average?
    a. Between 23,000 and 24,000
    b. Between 24,000 and 25,000
    c. Between 25,000 and 26,000
    d. Between 26,000 and 27,000
78. According to the U.S. Department of the Treasury, how large was the national debt at the end of 2018?
    a. Just under $16 trillion
    b. Just under $18 trillion
    c. Just under $20 trillion
    d. Just under $22 trillion
79. Who is the current chair of the U.S. Federal Reserve?
    a. Steve Mnuchin
    b. Wilbur Ross
    c. Alexander Acosta
    d. Jerome Powell
80. Who is the current Secretary of the U.S. Department of the Treasury?

a. Steve Mnuchin
b. Wilbur Ross
c. Alexander Acosta
d. Jerome Powell

81. Who is the current secretary of the U.S. Department of Labor?
    a. Steve Mnuchin
    b. Wilbur Ross
    c. Alexander Acosta
    d. Jerome Powell
82. Which body is responsible for controlling the money supply of the United States?
    a. The Department of the Treasury
    b. The Federal Reserve
    c. The Department of Labor
    d. The Department of Commerce
83. Which body is responsible for printing current in the United States?
    a. The Department of the Treasury
    b. The Federal Reserve
    c. The Department of Labor
    d. The Department of Commerce
84. A country's government runs a budget deficit when which of the following occurs in a given year?
    a. The amount of new loans to developing nations exceeds the amount of loans paid off by developing nations
    b. Government spending exceeds tax revenues
    c. The debt owed to foreigners exceeds the debt owed to the country's citizens
    d. The amount borrowed exceeds the interest payments on the national debt
    e. Interest payments on the national debt exceeds spending on goods and services
85. Hyperinflation is typically caused by:
    a. High tax rates that discourage work effort
    b. Continuous expansion of the money supply to finance government budget deficits
    c. Trade surpluses that are caused by strong protectionist policies
    d. Bad harvests that lead to widespread shortages
    e. A large decline in corporate profits that leads to a decrease in production
86. The official unemployment rate understates the unemployment level in the economy because the official unemployment rate:
    a. Ignores the duration of unemployment
    b. Ignores underemployed and discouraged workers
    c. Includes jobs created by the underground economy
    d. Excludes unemployed teenagers
    e. Excludes frictionally unemployed workers

Appendix B: June 2019 Experimental Treatments and Post-Treatment Surveys

Shutdown – News Report

As Government Shutdown Persists, Americans Feel the Bite

By Jim Tankersley, Matthew Goldstein and Glenn Thrush (The New York Times)

WASHINGTON — The impact of a partial government shutdown began to ripple across the economy as it stretched into Day 17, with mortgage applications delayed, public companies unable to get approval to raise capital and thousands of Secret Service agents expected to show up for work without pay.

The standoff is beginning to inflict pain on Americans, whose lives are affected, in one way or another, by the federal government. It is already the second-longest shutdown in history, behind the one that started in December 1995 and lasted 21 days.
On Monday, the Trump administration moved to soften some of the blow — and prevent taxpayer outrage — by directing the Internal Revenue Service to issue tax refunds during the shutdown, reversing previous policy. While the decision will allow taxpayers to get their money, the I.R.S. workers being called back from furlough to process those refunds will not be paid until the shutdown ends.

The effects of a prolonged shutdown have some Wall Street economists predicting a hit to the United States economy. Bank of America Merrill Lynch economists said Monday that it had pushed them to downgrade their estimates for economic growth at the end of 2018 by a 10th of a percent.

The ramifications of a prolonged shutdown are beginning to unnerve those both inside and outside the federal government. Some private companies and charities that serve public employees are searching for ways to cushion the impact.

As the effect moves well beyond the nation's capital, craft brewers cannot get approval from the Alcohol and Tobacco Tax and Trade Bureau for new beer labels. And the Commerce Department has stopped processing requests from auto suppliers and other manufacturing companies seeking an exemption from Mr. Trump's metal tariffs, leaving them uncertain over the price they will need to pay for key materials this year.

Farmers who planned to apply for subsidies to help mitigate the effect of Mr. Trump's trade war must wait to get paid until the Agriculture Department's Farm Service Agency offices reopen. And in neighborhoods across the country, as many as 39,000 federally backed mortgage applications may have already been delayed because of reduced staffing in federal agencies, according to Zillow estimates.

Several nonprofit organizations, including the Federal Law Enforcement Officers Association, are trying to aid Department of Homeland Security workers who need immediate help with a limited pool of cash and other resources, an officer with the group's charitable foundation said.

The Navy Federal Credit Union is offering no-interest loans to service members who face the prospect of missed paychecks. USAA, though, has drawn criticism from members of the Coast Guard for offering similar loans that charge interest.

Secret Service agents are growing increasingly anxious and angry about the shutdown, according to several current and former agents. The Secret Service protects 42 people associated with the Trump White House, 11 more than were given details during the Obama administration. In August 2017, the agency's new director, Randolph D. Alles, told an interviewer that the sprawling Trump entourage was putting unprecedented strains on his agents, in terms of staffing and budgeting.

"They are asking you to put your life on the line and not paying you — it's ridiculous," said Donald Mihalek, 49, a 20-year Secret Service veteran whose own retirement paperwork has yet to be processed because of the shutdown.

"Morale is a serious issue," said Mr. Mihalek, who served on the presidential detail during George W. Bush's and Barack Obama's administrations. "This is an incredibly stressful job that requires your full attention, and if you are standing there thinking about your mortgage, or your credit card bills, or the fact that you are burning through your savings, you are distracted, you not able to give 100 percent."

Financial enforcement is also suffering. The S.E.C. has about 4,400 full-time employees and during the shutdown is operating with just a few hundred — most of those tasked "to protect life or property."

The constrained operations means pending investigations in securities violations have ground to a halt, and there is no one reviewing applications for company stock offerings to raise cash or consider merger and acquisition filings.

Defense and corporate lawyers said meetings with potential witnesses in pending investigations have been canceled, and some companies seeking to raise cash through a stock offering are having to bide their time. Staff lawyers at the S.E.C. are largely prohibited from responding to emails seeking information or guidance.

In the past, the S.E.C. had managed to keep operating during government shutdowns by shifting around money in its budget. But the commission, which has been operating under a hiring freeze for more than a year, is not able to do that this time.

Shutdown – Technical

The following is the summary from a Congressional Budget Office report on the effects of the recent government shutdown.

The Effects of the Partial Shutdown Ending in January 2019

Summary

The Congressional Budget Office has estimated the effects of the five-week partial shutdown of the government that started on December 22, 2018, and ended on January 25, 2019. This report presents CBO's findings, which include the following:

- CBO estimates that the five-week shutdown delayed approximately $18 billion in federal discretionary spending for compensation and purchases of goods and services and suspended some federal services.
- As a result of reduced economic activity, CBO estimates, real (that is, inflation-adjusted) gross domestic product (GDP) in the fourth quarter of 2018 was reduced by $3 billion (in 2019 dollars) in relation to what it would have been otherwise. (Such references are in calendar years or quarters unless this report specifies otherwise.) In the first quarter of 2019, the level of real GDP is estimated to be $8 billion lower than it would have been—an effect reflecting both the five-week partial shutdown and the resumption in economic activity once funding resumed.
- As a share of quarterly real GDP, the level of real GDP in the fourth quarter of 2018 was reduced by 0.1 percent, CBO estimates. And the level of real GDP in the first quarter of 2019 is expected to be reduced by 0.2 percent. (The effect on the annualized quarterly growth rate in those quarters will be larger.)
- In subsequent quarters, GDP will be temporarily higher than it would have been in the absence of a shutdown. Although most of the real GDP lost during the fourth quarter of 2018 and the first quarter of 2019 will eventually be recovered, CBO estimates that about $3 billion will not be. That amount equals 0.02 percent of projected annual GDP in 2019. In other words, the level of GDP for the full calendar year is expected to be 0.02 percent smaller than it would have been otherwise.
- Underlying those effects on the overall economy are much more significant effects on individual businesses and workers. Among those who experienced the largest and most direct negative effects are federal workers who faced delayed compensation and private-sector entities that lost business. Some of those private-sector entities will never recoup that lost income.
- All of the estimated effects and their timing are subject to considerable uncertainty. In particular, CBO is uncertain about how much discretionary spending was affected by the partial shutdown, how affected federal employees and contractors adjusted their spending in response to delayed compensation, and how agencies will adjust their spending on goods and services now that funding has resumed.

In CBO's estimation, the shutdown dampened economic activity mainly because of the loss of furloughed federal workers' contribution to GDP, the delay in federal spending on goods and services, and the reduction in aggregate demand (which thereby dampened private-sector activity).

CBO's estimates do not incorporate other, more indirect negative effects of the shutdown, which are more difficult to quantify but were probably becoming more significant as it continued. For example, some businesses could not obtain federal permits and certifications, and others faced reduced access to loans provided by the federal government. Such factors were probably beginning to lead firms to postpone investment and hiring decisions. In addition, risks to the economy were becoming increasingly significant as the shutdown continued. Although their precise effects on economic output are uncertain, the negative effects of such factors would have become increasingly important if the partial shutdown had extended beyond five weeks.

Trade – News Report

Stung by Trump's Trade Wars, Wisconsin's Milk Farmers Face Extinction

By Alan Rappeport (The New York Times)

KENDALL, Wis. — For decades, Denise and Tom Murray rose before 5 a.m. and shuffled through mud and snow to milk cows on the farm that has been in their family since 1939. This month, after years of falling milk prices and mounting debt, the Murrays sold their last milk cow, taking pictures while holding back tears as the final one was loaded onto a truck and taken away.

"It's awful hard to see them go out the last time," said Ms. Murray, 53. "It's scary because you don't know what your next paycheck is going to be."

Wisconsin is known as "America's Dairyland," but the milk makers who gave the state its moniker are vanishing, falling prey to a variety of impediments, including President Trump and his global trade war.

Over the past two years, nearly 1,200 of the state's dairy farms have stopped milking cows and so far this year, another 212 have disappeared, with many shifting production to beef or vegetables. The total number of herds in Wisconsin is now below 8,000 — about half as many as 15 years ago. In 2018, 49 Wisconsin farms filed for bankruptcy — the highest of any state in the country, according to the American Farm Bureau Federation.

The fate of Wisconsin's farmers is a high-stakes political predicament for Mr. Trump, who narrowly won the pivotal swing state in 2016 and hopes to keep it red in 2020. On Saturday, Mr. Trump will travel to Green Bay, Wis., for a campaign rally where he is expected to trumpet his trade policies, like the revised North American Free Trade Agreement, which is supposed to bolster American dairy exports to Canada.

But Mr. Trump's trade approach has pushed many of Wisconsin's already struggling dairy farmers to the edge. Milk prices have fallen nearly 40 percent over the past five years, the byproduct of economic and technological forces that have made milk easier to produce and state policies that ramped up production and sent prices tumbling.

That has coincided with Mr. Trump's sweeping tariffs on foreign steel and aluminum, which were intended to help American manufacturers but have set off retaliatory tariffs from Mexico, Canada, Europe and China on American dairy products. Most painful for Wisconsin's dairy farmers has been a 25 percent tariff that Mexico placed on American cheese, which is made with a significant volume of the state's milk production.

Mr. Trump has insisted that any short-term pain from his trade war will pay off in the long run through improved access to foreign markets. And he has tried to mitigate the effect by providing federal aid to farmers whose products have been hurt by the trade war. But the crumbling of Wisconsin's flagship dairy industry has some farmers questioning whether Mr. Trump's promises will come true in time to save their farms.

“Low dairy prices have made it so hard for small farms to hang on,” said Josh Murray, 22, who is studying animal science and helping his family try to transition the farm to beef. While the Murrays received about $400 from Mr. Trump’s farm aid program, it was not enough to keep their milking operations afloat.

“In every aspect, it’s not worth it — it’s not worth the fight,” he said.

For many farmers who have been transitioning away from milk to other products, the trade wars have been the final straw. The warning signs have been flashing for a while, as milk prices declined precipitously in the last five years to below $17 per 100 pounds from almost $26. The rise of corporate farms and more efficient milking processes have led to an oversupply as consumption of milk has waned nationally.

The new North American trade deal, which is supposed to give dairy farmers more access to Canada’s tightly controlled market, has yet to be ratified by Congress and may never be approved given Democratic opposition. And Mr. Trump has yet to remove his metal tariffs on trading partners like Europe, Canada and Mexico, which refuse to lift their retaliatory tariffs until those levies come off.

Farmer advocacy groups say policies enforced by former Gov. Scott Walker, a Republican, exacerbated the problem. In 2012, Mr. Walker, who was defeated in 2018 by a Democrat, put into place a program to encourage dairy farmers to step up production with the goal of producing 30 billion pounds of milk a year by 2020. That was easily accomplished by 2016, but the oversupply crippled the industry.

“He wanted to put Wisconsin back into the lead in milk production over California,” said Joel Greeno, a dairy farmer and the president of the Wisconsin advocacy group Family Farm Defenders. “It was more an example of arrogance than practicality.”

Mr. Walker declined to comment.

Mr. Greeno said that for all of Mr. Trump’s protectionist tendencies, he has been a disappointment for farmers by not aiming tariffs on imported products like milk protein concentrate that would protect the American dairy industry and make imports more expensive. Many farmers favor the idea of a supply management program for dairy like the one Canada uses, but the Trump administration has not supported such a program

The agricultural woes in Wisconsin are a microcosm of the difficulties that farmers across the country have faced as a result of the multifront trade disputes that have lingered for more than a year. In 2018, farm income nationally was $63.1 billion, the second-lowest total in a decade. Commerce Department figures released on Friday suggested that farmers were not anticipating much relief, as purchases of agricultural equipment were tepid.

A report last year from the U.S. Dairy Export Council estimated that over the next several years, retaliatory tariffs by China and Mexico could cut American dairy exports by $2.7 billion and lower dairy farmers' revenues by $16.6 billion if they were not rolled back**.**

Trade – Technical

The following is a report on the effects of recent trade policies by Agribusiness Consulting.

Economic Impact of Retaliatory Tariffs from Mexico and China on the US Dairy Sector

I. EXECUTIVE SUMMARY

In response to the US imposition of tariffs on select Mexican and Chinese imports following the release of two US Section 232 investigations and a US Section 301 investigation, these countries retaliated against select US exports including dairy products.

- China imposed an additional 25-percent tariff on US exports in response to the US Section 301 investigation. As a result, total tariffs on selected US dairy products range from 27 percent to 45 percent.
- Mexico imposed tariffs on most US cheeses that range from 20 percent to 25 percent.

This study evaluates the impact of the above retaliatory tariffs placed by China and Mexico on the US dairy sector in terms of US exports to those countries, the resulting impact on US farm-gate prices and US dairy farm sector revenues and the overall impact on the US economy. Informa analyzed the impacts compared to its baseline forecasts for the period 2018 to 2023.

China and Mexico are vital to US dairy product exports. These two countries combined account for around 35 percent of total US dairy exports worth approximately $1.9 billion. The study finds that China's and Mexico's retaliatory tariffs significantly impact the US dairy sector.

- US dairy product exports combined could fall by $115 million in 2018 and $415 million in 2019.
- From 2018-2023, US dairy product exports combined could fall by roughly seven percent from baseline projections worth $2.7 billion.
- Farm-gate prices are expected to fall roughly $0.64 per hundredweight (cwt) to average around $16.44/cwt through 2023 compared with the baseline price forecast of $17.09/cwt through 2023.
- Lower farm-gate prices are forecast to reduce farm-gate revenues by roughly $1.5 billion in 2018 and roughly $3 billion in 2019. From 2018-2023, the lower farm-gate prices are forecast to reduce farm-gate revenues by $16.6 billion.
    - Lost exports to China account for the bulk of the impact on farmers. Of the total $16.6 billion loss in farm-gate revenue, $12.2 billion or roughly 73 percent can be attributed to
- Chinese tariffs. Lost exports to Mexico account for the remainder of approximately $4.4 billion or 27 percent of the total loss.
- When including impacts of reduced exports to industries that are linked to the dairy farming industry, US economic output is reduced by $8.3 billion through 2023, GDP is reduced by $3.5 billion and indirectly risks over 8,200 jobs throughout the broader economy.

The current trade situation between the US and China and the US and Mexico is very fluid. The US tariffs placed on select Chinese and Mexican goods as well as the Chinese and Mexican retaliatory tariffs placed on select US goods can all be removed at any time. But, with the current

tariffs in place, the US dairy sector is being negatively impacted and will suffer more the longer these tariffs remain in place.

II. CONCLUSION

The current trade situation between the US and China and the US and Mexico is very fluid. The US tariffs placed on select Chinese and Mexican goods as well as the Chinese and Mexican retaliatory tariffs placed on select US goods can all be removed as easily as they were put in place. However, as the tariffs stand, the US dairy sector is poised to lose significant export shares in China as well as shares in Mexico.

Under the retaliatory tariffs, price is forecast to drop $0.64 to average around $16.44/cwt through 2023 with total production forecast at 613 million MT. This decline in price directly impacts farm-gate revenue. Under the baseline, farm-gate revenue through 2023 is forecast at roughly $233.4 billion. Under the retaliatory tariffs, farm-gate revenue is forecast to total roughly $216.8 billion through 2023. This equates to a reduction in farm-gate revenue worth $16.6 billion. In 2018, lower farm-gate prices are forecast to reduce farm-gate revenues by roughly $1.5 billion and roughly $3 billion in 2019. Lost exports to China account for the bulk of the impact on farmers. Of the total $16.6 billion loss in farm-gate revenue, $12.2 billion or around 73 percent can be attributed to Chinese tariffs. Lost exports to Mexico account for the remainder of approximately $4.4 billion or 27 percent of the total loss.

US dairy exports to China and Mexico account for around 35 percent of total US dairy exports worth roughly $1.9 billion. The retaliatory tariffs directly reduce this amount by increasing the cost of US dairy exports leading to adverse impacts on the US dairy sector. US dairy product exports combined could fall by $115 million in 2018 and $415 million in 2019. The direct impact on exports resulting from the retaliatory tariffs is approximately a $2.7 billion loss through 2023. When including impacts to industries that are linked to the dairy farming industry, US economic output is reduced by $8.3 billion through 2023 and indirectly risks over 8,200 jobs throughout the broader economy.

The reduction in exports creates a surplus in the domestic market leading to a reduction in price which negatively impacts farmer revenue. As discussed in chapter four, the decreased exports to China and Mexico lead to an excess domestic supply which puts downward pressure on prices. This decline in prices paired with slow adjustments to production lead to significant loss in farm-gate revenue. The longer US dairy exports are subject to tariffs above and beyond normal rates, the more market share the US will lose to foreign suppliers of the Chinese and Mexican markets. The future is uncertain for US dairy farmers making it difficult to plan any distance into the future with realistic expectations. What is for certain, is the US dairy sector will continue to suffer under Chinese and Mexican retaliatory tariffs for as long as they are in place.

Shutdown Post-Treatment Survey

Prior to the most recent government shutdown, President Trump stated that he would not agree to any budget proposal that did not include funding for a wall along the U.S.-Mexico border. Do you think that this was a valid reason to shut down the government?

- Yes
- No

Do you agree or disagree with the suggestion that the government shutdown slowed economic growth?

- Agree
- Disagree

Overall, do you believe that the government shutdown was harmful to the American economy or not that harmful?

- It was harmful
- Not that harmful

Should the President continue to threaten to shut down the government in the future if Congress refuses to meet his demands on border security?

- Yes
- No

Do you favor or oppose building a wall along the U.S. border with Mexico?

- Favor
- Oppose

Do you approve or disapprove of the president declaring a national emergency in order to use funding designated for the U.S. military to build a wall along the Mexican border?

- Approve
- Disapprove

Do you believe that increased government spending is generally beneficial to the economy, or is it generally harmful?

- Extremely helpful
- Somewhat helpful
- Neither helpful nor harmful
- Somewhat harmful
- Extremely harmful

Trade Post-Treatment Survey

Some people have suggested placing new limits on foreign imports in order to protect American jobs. Others say that such limits would raise consumer prices and hurt American exports. Do you favor, oppose, or neither favor nor oppose placing new limits on imports?

- Favor
- Oppose
- Neither favor nor oppose

In your opinion, is increased trade with other countries been good for the United States, bad for the United States, or neither good nor bad

- Good
- Bad
- Neither good nor bad

Recently, some big American companies have been hiring workers in foreign countries to replace workers in the U.S. Do you think the federal government should discourage companies from doing this, encourage companies to do this, or stay out of the matter?

- Discourage
- Encourage
- Should stay out of the matter

Would you say that over the past year the level of unemployment in the country has gotten better, stayed about the same, or gotten worse?

- Gotten better
- Stayed about the same
- Gotten worse

How about people out of work during the coming 12 months- do you think that there will be more unemployment than now, about the same, or less?

- More
- About the same
- Less

How worried are you about losing your job in the near future?

- Not at all
- A little
- Moderately
- Very
- Extremely

In the short term, do you think the United States' decision to raise tariffs on Chinese imports will make the economy better, make the economy worse, or will it not have much of an effect?

- Better
- Worse
- Not much of an effect

Some have said the U.S. and China are involved in a trade war -- that is, a dispute over tariffs and trade policy. Who do you think will win a trade war in the long run?

- The U.S.
- China
- Both countries
- Neither country

Do you think President Trump's trade policies are good or bad for your personal financial situation?

- Good
- Bad
- Neither

Do you think President Trump's trade policies are good or bad for the overall economy?

- Good
- Bad
- Neither

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