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UNIVERSITY OF CALIFORNIA, SAN DIEGO

**An Unequal and Polarized Democracy: Why Has Unequal Growth Caused Party
Polarization in the American Public**

A dissertation submitted in partial satisfaction of the
requirements for the degree
Doctor of Philosophy

in

Political Science

by

John Seungmin Kuk

Committee in charge:

Professor James Fowler, Chair
Professor Gary Jacobson, Co-Chair
Professor James Druckman
Professor Stephan Haggard
Professor Seth Hill
Professor Lane Kenworthy

2017

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The dissertation of John Seungmin Kuk is approved, and it is acceptable in quality and form for publication on microfilm and electronically:

Co-Chair

Chair

University of California, San Diego

2017

DEDICATION

To my parents who have done everything to support my academic journey,
and to the love of my life, my wife Jiyoung

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ABSTRACT OF THE DISSERTATION

**An Unequal and Polarized Democracy: Why Has Unequal Growth Caused Party
Polarization in the American Public**

by

John Seungmin Kuk

Doctor of Philosophy in Political Science

University of California, San Diego, 2017

Professor James Fowler, Chair
Professor Gary Jacobson, Co-Chair

Scholars have demonstrated that economic inequality in America is closely correlated to political polarization among America's political elites. The connection between the two is explained by the fact that the public's partisanship has become income-stratified because of polarized redistributive preferences. However, the correlation between income and partisanship weakened after the year 2000, and there is no empirical evidence of polarization in redistributive preferences. It is also unclear whether inequality and polarization have a causal relationship because of the complicated and endogenous nature of

both trends. In this dissertation, I argue that unequal economic growth leads to political polarization in the American public. Instead of positing that aggregate inequality causes polarization, I focus on the economic experiences of individual voters and their effect on policy attitudes and social identities. I demonstrate that individuals whose living standards have stagnated are likely to have more socially conservative attitudes, stronger in-group solidarity, and out-group derogation, while individuals whose well-being has improved over time are likely to have socially liberal attitudes.

To test this theoretical mechanism, I explore two aspects of my theory. First, I test whether income inequality and political polarization among the public are correlated and what dimension of policy preferences is polarized. I demonstrate that the degree of polarization within the public is very closely correlated with income inequality. Indeed, the correlation of income inequality with public polarization is as strong as the political polarization within Congress. Furthermore, I find that polarization is only present in identity politics with the social issues dimension, rather than the economic dimension. Second, I examine the individual and community effect of economic disruption. I show that individuals' fear of and anxiety about losing their economic status—the main psychological mechanism of my theory—causes them to have stronger racial resentment and ethnocentrism. Furthermore, I demonstrate that the regional economic disruption caused by Chinese imports causes voters to have more conservative attitudes about non-economic issues but not economic issues.

Chapter 1

Introduction

Since 1980, rising income inequality has been the main feature of the American economy. The top one percent earns 18% of the total national income, whereas the top 10% controls 50% of the income share. These figures are reminiscent of the early 20th century, when the level of income inequality was the highest in American history. The concentration of wealth gave the current era the name, the “New Gilded Age” (Bartels 2008). At the same time, political polarization has been a defining aspect of American democracy. The ideological distance between the two parties in Congress continues to grow, and partisan animosity toward the opposing party is becoming more intense. Inequality and polarization are the most distinctive problems in economics and politics, respectively.

How do these two important trends relate to each other? Both the media and scholarly research have addressed the fact that economic inequality and political polarization have increased dramatically over the past 40 years. McCarty, Poole and Rosenthal (2006) (“MPR” hereafter) went even farther and introduced the idea that inequality and polarization are closely correlated. According to MPR, inequality leads to polarization, which in turn causes more inequality. As shown in the most well-known MPR graph

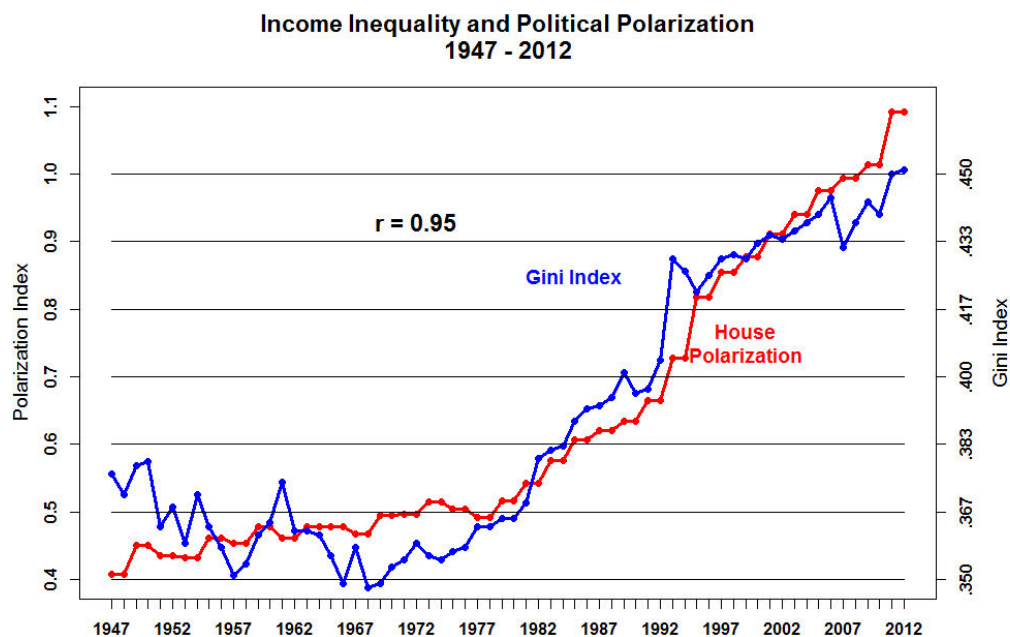


Figure 1.1: Income Inequality and Political Polarization (1947–2012)
Source: McCarty, Poole and Rosenthal (2006, Figure 1.1).

(Figure 1.1), income inequality and political polarization share a common path. The correlation coefficient of these two trends is 0.95. Measured using the Gini index, economic inequality began to increase in 1980, and similarly, political polarization began to climb in the early 1980s. When the Gini index increased dramatically in the late 1980s and early 1990s, the polarization index followed this appreciable rise in the subsequent year. In relation to one another, inequality and polarization never increased while the other lagged; rather, as MPR observed, the two danced together.

In their study of polarization, MPR focused on elected officials instead of the mass public. They measured and explained polarization among the political elites. From the MPR viewpoint, public opinion and political behavior are factors that can explain polarization among politicians, rather than their core interest. Reflecting this interest,

MPR's polarization index (Figure 1.1) illustrates the ideological distance between the two parties in Congress. Ironically, their interest in polarization in the Congress presented a difficult problem for them to solve: why politicians, a small subset of the whole population, become polarized when the income distribution of the overall population is evolving into an unequal one. Their remarkable finding left behind a puzzle.

Why are inequality and polarization intertwined? MPR, through their foundational work on the topic, provided clear evidence showing that the two trends are closely related. However, as I will explain in detail in the next section, MPR did not explain what happened among the mass public as thoroughly as they addressed the occurrences among the political elites. Given that politicians' ideologies are constrained to those of their constituents, it is insufficient to explain the polarization of political elites without providing a complete picture of public polarization. Furthermore, MPR did not convincingly test whether inequality caused polarization. The complicated and endogenous nature of both inequality and polarization prevent MPR and other researchers to establish a causal relationship. Without providing a convincing causal mechanism, however, the possibility that inequality and polarization are correlated by coincidence cannot be eliminated.

The goal of this dissertation is to fill the missing link left by MPR. This goal will be achieved by addressing the following research questions: Does increasing income inequality lead to political polarization among the American public? If so, why is this the case? What is the mechanism that connects the two seemingly unrelated trends?

The main argument of this dissertation is that increasing economic inequality leads to political polarization in the American public. Instead of positing that aggregate inequality causes polarization, I focus on the economic experience of individual voters and its effect on their policy attitudes and social identities. By disaggregating the process of rising inequality, I demonstrate that individuals whose living standards have stagnated are likely to have more socially conservative and stronger in-group solidarity and out-

group derogation, while individuals whose well-being have improved over time are likely to have socially liberal attitudes.

In the remainder of this chapter, I will explain what MPR missed in their explanation of the causal mechanism. Thereafter, I will review the related literature that could advance understanding of this missing link. Finally, I will describe the main argument of the dissertation and provide a plan for the subsequent chapters.

1.1 What Have McCarty, Poole and Rosenthal (2006) Missed?

MPR provided three mechanisms to explain why inequality and polarization are closely related. First, partisanship has become more aligned with income as income inequality has risen. Over time, the rich are more likely to vote for the Republican Party. Second, politicians have not adopted more redistributive policies because of the vast increase in the number of poor non-citizens. In regard to eligible voters' income distribution, the median voter's position has not decreased, because a large number of immigrants are low income and are ineligible to vote. Third, campaign contributions have been targeted toward more extreme candidates.¹

Before delving into why the MPR's explanations are problematic, it is important to review its core assumption. From the MPR point of view, the main political conflict caused by income inequality relates to redistributive issues. Redistribution is undoubtedly an important topic given the fact that income inequality is related to how to distribute income. However, several studies have shown how noneconomic factors—namely race, immigration, and morality—conflate the politics of redistribution (Alesina and Glaeser

¹MPR made clear in their book that campaign finance's role on polarization is more nuanced and complicated than the other two factors, inequality and immigration (McCarty, Poole and Rosenthal 2006, 194–195).

2004; Frank 2007; Gilens 1999; Hainmueller and Hiscox 2010; Roemer 1998; Roemer, Lee and Van der Straeten 2007). Furthermore, voters care not only about maximizing their own monetary benefit but also about where their tax dollars go and how they are spent (Cavaillé and Trump 2014). The median voter—who, according to MPR’s model, is the decisive voter in regard to redistributive politics—might not prefer redistribution if he or she has disdain for groups that receive welfare benefits. Without taking into account public opinion about these noneconomic issues, it is impossible to understand how voters’ preferences for redistribution are affected by income inequality.

1.1.1 Income and Vote Choice

Does vote choice become more stratified with income level, as MPR suggest? Their models, which include various specifications to measure the effect of income on party identification, illustrate that income level and seven-point party identification (ID) have a stronger association over time. They used American National Election Studies (ANES) data from 1952 to 2002 to model how the strength of the income effect on party ID changes over time, and they interacted their key income variable with different time trends: constant effect over time, linear time trend, cubic time trend, and decade time dummy model. Every model showed that the effect of income has increased over time. However, their cubic model told a more nuanced story than the other models. Figure 1.2 illustrates how the income effect changes over time, according to the cubic model. The effect started to decrease after 1990, around the time when there was a steep increase in income inequality. Furthermore, their model does not include data post 2002, at which time both inequality and polarization were increasing considerably and steadily. If the cubic model is the best fit for their data, the effect of income on party ID will continue to decrease after 2002.

What would the relationship between income and party ID look like if we did

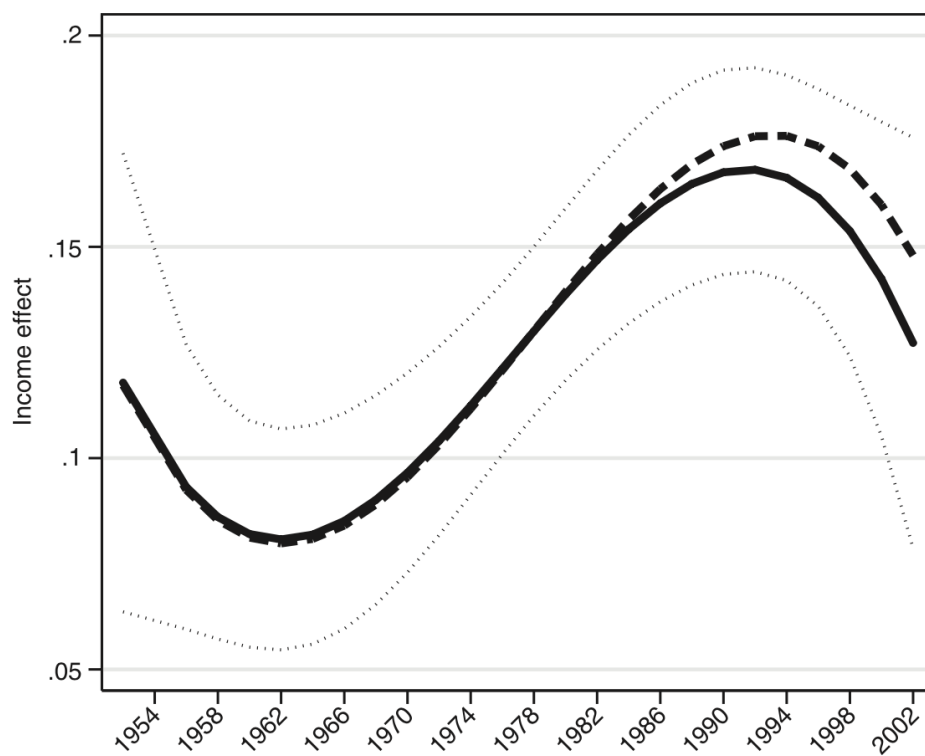


Figure 1.2: Income Effect on Party Identification Cubic Polynomials Estimates
The estimate on each year reflects the marginal effect of income on party identification.
Source: McCarty, Poole and Rosenthal (2006, Figure 3.3).

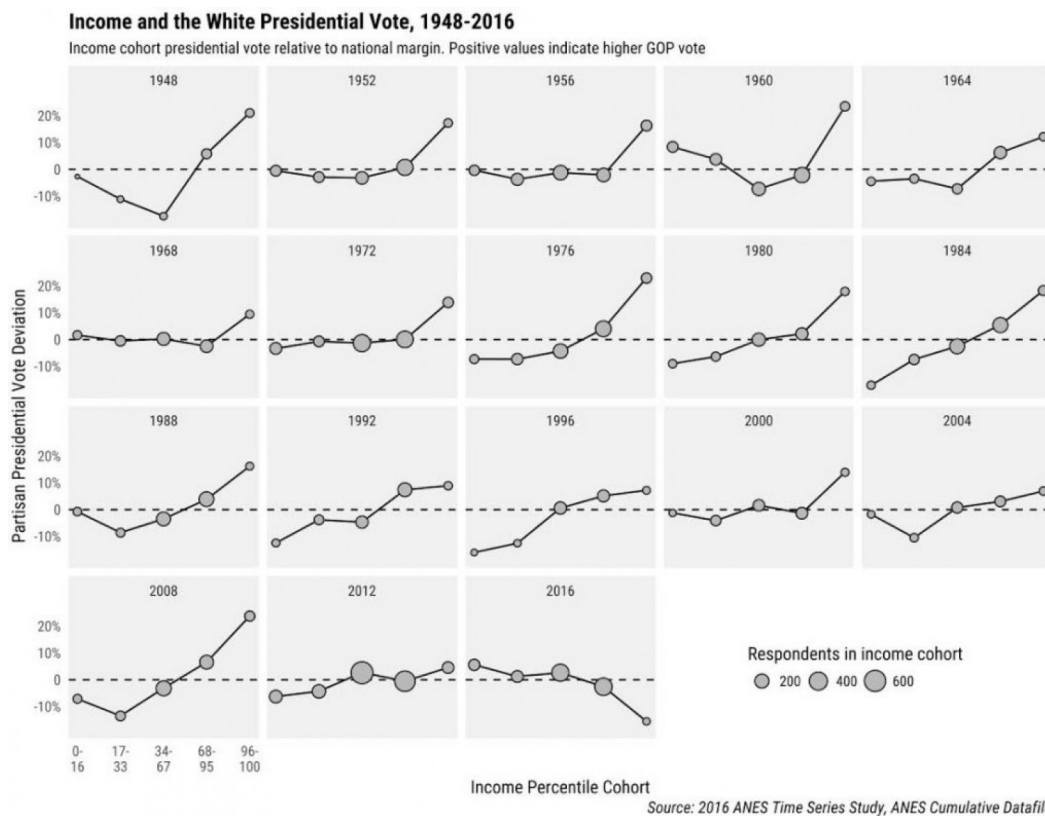


Figure 1.3: Income and the White Presidential Vote (1948–2016)
Source: Wood (2017).

not model it with regressions or include post-2002 data? The relationship between the two variables would reveal a completely different picture. Figure 1.3 is a graphical presentation of the relationship between income and presidential vote choice. Wood (2017) used the same ANES cumulative data to plot how the two variables are related. However, instead of modeling the two variables, he used only White respondents and computed how each income quintile is likely to vote for a Republican presidential candidate every four years. After 1990, the top two income groups' (96th–100th percentile and 69th–95th percentile) likelihood of voting for Republican candidates is lower than it has been in past years. The top two income groups in 2016 show a more dramatic deviation. Voters with an income that is higher than the 69th percentile have a lower probability of voting for a Republican candidate than voters below the 69th percentile.

If voters' partisanship is not becoming stratified with income level, then why are elected officials moving away from the center? If rich people are moving toward the Republican side and the poor are gaining strength on the Democratic side, MPR could have successfully linked income inequality and political polarization. However, without using regression modeling and adding more data since 2002, MPR's explanation has no empirical support.

1.1.2 Immigration and Polarization

How does immigration contribute to political polarization? In fact, MPR do not clearly explain how the increase in the immigrant population leads to polarization. Instead, they explain why immigration suppresses the adoption of redistributive policies. A more complicated explanation is required to link immigration to polarization. Increasing inequality was supposed to pressure politicians to support more redistribution. There would have been more redistribution and, thus, less inequality if there had been a smaller low-income immigrant population that could not vote. Because immigration makes it difficult to suppress inequality, the factor that exacerbates polarization—inequality—was off the leash. Given the fact that their logic of connecting inequality and polarization is not strongly supported by empirical evidence, there is a tenuous link between immigration and polarization.

Furthermore, immigration complicates the income–party identification link. In their model explaining voters' redistributive preference, low-income voters want more redistribution and, thus, support the Democratic Party. This is especially true for low-income Black voters. However, the picture is more complicated with regard to White voters, who are moving toward the Republican Party because of immigration issues (Abrajano and Hajnal 2015). Low-income and low-education White voters in particular are more likely to defect to the Republican Party. White voters who have shifted to

the Republican Party are anomalies of the traditional median voter models that explain inequality and redistribution (Bolton and Roland 1997; Meltzer and Richard 1981). White low-skilled workers would have supported more redistribution and the Democratic Party if the traditional models had applied to this case correctly. These facts reveal that there exists a missing dimension that MPR did not consider in their explanations of immigration and redistribution.

1.2 What Do Previous Studies Teach Us about Inequality and Polarization?

The seminal work that taught us that income inequality and political polarization are closely related, MPR, unfortunately does not explain the causal mechanism that links the two trends. The fact that MPR's explanation misses important points does not mean inequality and polarization have a spurious relationship. To understand how widening economic inequality causes polarization among the American public, it is worthwhile to review the fast-growing literature on how income inequality affects political behavior.

1.2.1 Is the Public Polarized?

Before exploring the literature on inequality and political behavior, I begin by reviewing the debate regarding political polarization in the mass public. There is no dispute that the political elites are polarized (McCarty, Poole and Rosenthal 2006; Poole and Rosenthal 2000). However, there is no scholarly consensus on whether the public is politically polarized. The debate on public polarization is divided between the group of scholars who argue that there is polarization in the public (Abramowitz and Saunders 2005, 2008; Abramowitz 2010; Baldassarri and Gelman 2008; Jacobson 2003, 2015;

Layman and Carsey 2002) and the other group who disagrees with the former view (Fiorina, Abrams and Pope 2006, 2008; Fiorina and Abrams 2008, 2012; Hill and Tausanovitch 2015). The first group of works focuses on the finding that partisans in the same camp are becoming more like-minded and that moderate partisans are disappearing. The second group of researchers argues that there are still a significant number of moderates and that the degree of polarization is not as serious among the public as it is for politicians. Scholars cannot reach an agreement because studying polarization in the mass public is more difficult than studying it with regard to the political elites. The data for measuring policy positions for the public are limited when compared to data on the political elites. Questions about political issues in public opinion surveys are limited and change frequently over time.

The disagreement on public polarization challenges the premise of MPR. If the public is not polarized, then MPR cannot claim that the polarized public is one of the causes of the polarizing Congress. If the public is polarized, then the question becomes the extent of polarization and how closely it is correlated with the degree of inequality. Another issue in the literature of public polarization is dimensionality. Both sides of the debate rely on the assumption that the public's ideology has one dimension. Assuming that the public has a one-dimensional policy preference is highly questionable, given Converse's (1964) suggestion that the less informed public has multidimensional policy preferences. Furthermore, with a one-dimensional ideology, it is impossible to test the validity of MPR's suggested mechanism: polarization through economic issues. To better understand the existence of public polarization and the link that connects the elite and the mass public, it is important to explore more than one dimension.

1.2.2 Income Inequality and Political Preferences

How does rising income inequality change public opinion and political behavior? To answer this question, I start with its foundation. The workhorse model of economic inequality and political behavior is the Meltzer and Richard (1981, MR hereafter) model. According to the MR model, rising inequality pushes median voters' income lower than the mean. Therefore, decisive median voters will vote for more redistribution. The MR model lacks empirical support (Kenworthy and Pontusson 2005; Kenworthy and McCall 2007)²; however, most studies on the behavioral response to inequality share the core assumptions of the MR model. First, voters' support for redistribution is based on their current income. Second, the higher the voter's income, the more likely he or she is to oppose redistribution. Third, the median voter decides the level of redistribution.

Given the dominance of the MR model and the expectation that democracy can slow the pace of rising inequality, the inability of American democracy to reduce inequality becomes a research puzzle (Bonica et al. 2013; Scheve and Stasavage 2014). with three lines of answers. The first is that American democracy is inherently unequal. That is, politicians selectively represent affluent voters and interest groups, whereas poor voters are underrepresented (Bartels 2008; Gilens 2005, 2012; Gilens and Page 2014). Second, voters' redistributive preferences do not change when inequality increases. The elasticity of redistributive preferences to income inequality is marginally low (Kuziemko, Norton and Saez 2015) or, rather, redistributive policy moods become conservative when inequality increases (Kelly and Enns 2010). Third, voters do not have sufficient information. They cannot relate the intensity of the inequality to their self-interests (Bartels 2005, 2008). Even further, the extent of the inequality is unknown to the voters (Norton and Ariely 2011; Gimpelson and Treisman 2015).

²Milanovic (2000) is the only study that supports Meltzer and Richard (1981) model. However, his finding suggests that the mechanism that inequality leading more redistribution differs to Meltzer and Richard (1981)).

Yet another puzzle emerges from the two answers mentioned above: how does public opinion polarize when voters do not have enough information to know the extent of inequality while rising inequality does not affect voters' redistributive preference? Does public opinion regarding redistribution rarely correspond to increasing income differences? Studies on this topic have mixed and inconclusive findings. The public's policy preferences become either conservative (Kelly and Enns 2010; Sands 2017; Trump 2017), slightly liberal (Johnston and Newman 2016), or explicitly liberal as income inequality rises (Dimick, Rueda and Stegmueller 2016; Rueda and Stegmueller 2016).

What do these conflicting studies teach us about our understanding of inequality and redistributive preferences? There could be a true causal relationship between the two variables; however, we do not have the correct theory and proper research design to test it. Another possibility is that we have been asking the wrong question. Inequality and redistributive preferences might not be related. Alternatively, there might be an important confounding variable that we have not considered.

The discussion thus far reveals that the existing literature has been focused on the issue of redistribution. It has been natural to focus on this redistribution for two reasons. First, increasing income inequality is an economic problem. If voters want to maximize their current income, they are expected to change their redistributive preferences to obtain more government support. Second, studying redistribution has a normative implication. Redistribution is the most prominent way to solve the inequality problem. However, studies on inequality's effect on redistributive preferences do not provide a clear answer. The conundrum here implies that scholars need a new approach to understand the political consequences of income inequality.

1.3 The Argument

Why does rising income inequality lead to political polarization among the public? The problems in MPR and past studies reveal that voters' preferences regarding redistribution are not the driver of polarization. If there is polarization in the public, it is likely to be led by policy preferences other than redistributive preferences.

In this dissertation, I argue that while widening economic inequality has led to political polarization in the public, it is taking place on non-economic policy preferences rather than on economic or redistributive policy preferences. To lay out the argument, there are three questions to be answered. First, what aspect of rising income inequality changes the hearts and minds of voters? Instead of positing that aggregate inequality—the degree of inequity on the income distribution—alters voters' policy preferences, I focus on the idea that rising inequality can be disaggregated into individual experiences of income growth and stagnation. A significant portion of the population's well-being has been stagnating over decades, while the living standards of the rich have improved. With deteriorating wages, the behavior of the population experiencing economic downturns shows a sharp contrast with the behavior of more financially stable people. This contrast can be found both among individuals and across regions. The increasing income gap also manifests in geographic inequality, indicating that economic distress is concentrated in certain areas. Voters living in a rising economy versus those residing in a crumbling community are likely to have diverging opinions.

Second, how is a focus on economic growth and stagnation different from the existing approaches? The relative position on income distribution has been the core independent variable in most studies on inequality. In my approach, the economic distress of stagnation is related to, but distinct from, relative income. Voters with low incomes are likely to be more economically anxious, but it does not rule out the possibility

that middle-class voters could be stressed about their situation. Plenty of middle-income individuals with a lower skillset or lower levels of educational attainment are likely to lose their economic privilege from a changing economy that favors high-skilled workers. In the opposite scenario, there are more economic opportunities for low-income individuals with a higher education. To better understand the everyday effect of inequality on individual behavior, I focus on the anxiety of economic stagnation, especially fear and anxiety of losing economic status. In Chapter 2, I will elaborate how emotions related to economic stagnation affects the attitudes and perceptions of people.

The final question concerns why non-economic politics have become polarized. Identity politics, especially the role of race, is important in explaining why voters' non-economic policy preferences are deviating from the middle. My theory argues that voters experiencing economic stagnation are more likely to show stronger in-group solidarity and develop an out-group bias. In periods of economic downturn, voters have a strong interest in opposing policies that lift discrimination against minorities because they are likely to face more competition and lose their status. Furthermore, financial stagnation induces low self-esteem and uncertainty, which brings about a psychological need among voters to establish a group identity. The importance of identity politics also explains why economic policy preferences do not diverge. Voters with a stronger out-group bias are more likely to oppose redistribution to out-groups. The white working class develops a strong sense of entitlement when they understand the politics of redistribution, believing that black people do not work hard enough to deserve governmental help. As a result, the white working class, a tentative supporter of redistributive policies, opposes redistribution instead.

1.4 Structure of the Dissertation

There are five remaining chapters in the dissertation. In Chapter 2, I will describe the mechanism behind income inequality that leads to political polarization. As mentioned in the previous subsection, voters experiencing economic stagnation will establish an in-group identity and exhibit derogatory sentiments toward out-groups.

In Chapter 3, I demonstrate how voters become polarized as income inequality increases. Past studies dispute whether the public is polarized along party lines and do not show whether the degree of party polarization is correlated with economic inequality. I demonstrate that the degree of polarization within the public is very closely correlated with income inequality. Indeed, the correlation of income inequality with public polarization is as strong as the political polarization within Congress. Furthermore, I find that polarization is only present in identity politics with the social issues dimension, rather than the economic dimension.

In Chapter 4, I present the findings from a survey experiment designed to test whether economic stress is causing a stronger racial out-group bias. I use primes to induce individuals who are experiencing economic stagnation to contemplate their economic situation. The research design allows me to examine whether fear and anxiety of losing their economic status—the main psychological mechanism of my theory—causes individuals to alter their racial attitudes. Finally, in Chapter 5, I study how regional inequality exacerbates public polarization. This chapter will test whether regions with a growing economy and those with a stagnating economy show a contrast in non-economic positions. I first show that the more affluent the region is, the more liberal the voters in that area are on non-economic issues, although this attitude does not apply to economic issues. To test whether regional economic stagnation causes voters to become more conservative on non-economic issues, I use instrumental variable regression. The instru-

mental variable is based on the differences in the presence of Chinese imports across the nation.

To conclude the dissertation, I summarize my argument and findings and discuss the implications of this analysis.

Chapter 2

Why Rising Income Inequality Has Led to Party Polarization in the American Public

In the previous chapter, I argued that increasing income inequality has led to polarization of the American public. Specifically, I contended that polarization has only occurred in relation to identity politics and social issues, and not in terms of economic issues. In this chapter, I describe the mechanism connecting economic inequality to polarization.

While income inequality has been rising in America, individual and regional differences in economic wellbeing have increased. Over the past 40 years, the living standard of low-income individuals has stopped improving. With the increasing distance between the rich and poor, low-income individuals have lost the hope of advancing in society, and this has created economic anxiety. Voters stuck at the bottom manage their situation by developing stronger in-group solidarity and out-group bias, as well as by opposing policies that promote social equality. Voters who have not failed to enhance

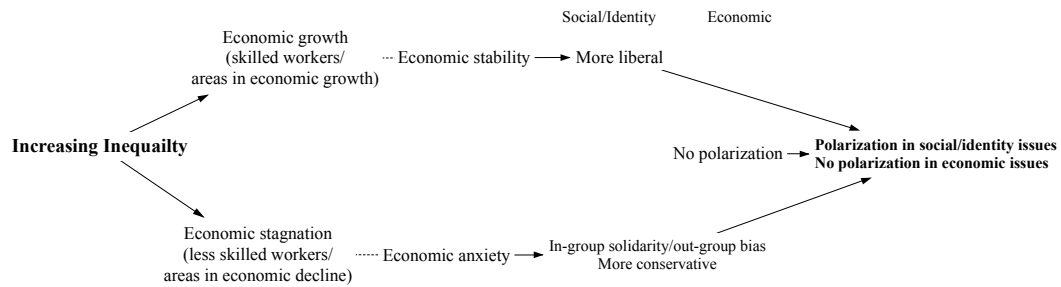


Figure 2.1: An Illustration of the Theory Connecting Increasing Inequality to Polarization in Two Issue Dimensions

their economic wellbeing move in the opposite direction; they are less engaged in identity politics and become supporters of lifting discriminatory policies. While the degree of polarization concerning social issues has been increasing, this has not been the case for economic issues. White working-class individuals who could potentially benefit from more redistribution do not support liberal economic policies because they do not want their tax money spent on low-income black people. The white working class perceive that blacks do not deserve redistribution because they have not worked hard enough. With the large group of low-income white voters opposing redistribution because of racial concerns, there has been no polarization related to economic issues.

Figure 2.1 graphically delineates the theory. In the remainder of the chapter, I clarify my theory concerning inequality through polarization.

2.1 An Increasing Economic Gap: Growth and Stagnation

Why would rising economic inequality lead to deeper political polarization? To understand this mechanism, I begin with explaining how increasing inequality has changed the economic wellbeing across the rich and poor segments of society. The

scholarly interest on post-1980s income inequality has focused on the distribution of wealth to the top 1% and the top decile (Piketty and Saez 2003; Piketty 2014). Despite the importance of this issue, research on this topic fails to acknowledge how the growing income inequality has affected the wellbeing of the “other 99%” (Autor 2014). To explain the public’s polarization, it is crucial to explore how income inequality has affected the lives of the 99%. Unless the other 99% reject the gap and demand more redistribution from the top 1%, what matters most is the economic reality of the other 99%, which is closely tied to their political attitudes.

2.1.1 Why Aggregate Inequality Has No Meaningful Effect

In this dissertation, I focus on the trend whereby some individuals and regions have experienced economic growth, while the others have undergone stagnation. Most existing studies that attempt to understand the effects of inequality explore how the aggregate unequal distribution of income influences individuals’ policy preferences. However, these studies have not been able to demonstrate a meaningful effect of inequality. In this section, I explain why an aggregate inequality—Gini or top income share—or an individual’s relative position in the distribution—relative income measure—is not significant when it comes to policy preference formation. Following this, I discuss why economic growth or stagnation is important in shaping policy preferences.

Existing models of inequality and political preferences are based on individual incentives. They assume that individual incentives would change when the overall income distribution differs. In the Meltzer and Richard (MR) model, the difference between average income and the income of the median voter determines the median voter’s preferences (Meltzer and Richard 1981). Moreover, how much the median voter earns relative to the mean income determines redistributive preference. When the top income earners gain more income share, voters below the average income, especially the decisive

median voter, can gain more benefits from government redistribution.

Economic inequality does not affect political preferences—specifically, redistributive preferences—as the MR model posits. There are three reasons for this. First, Americans have a higher level of tolerance for economic inequality than people from other countries (Alesina and Glaeser 2004; Hochschild 1981). The public strongly opposes inequality of opportunity, but it is not as committed to ensuring equality of outcomes (Alesina, Di Tella and MacCulloch 2004; McCall and Kenworthy 2009; McClosky and Zaller 1984). If everyone begins at the same starting line and the outcome is determined by the amount of effort, Americans perceive that the differences in wealth are acceptable. This deeply rooted support of economic inequality impedes the public’s awareness of inequality leading to redistribution.

The second reason that inequality does not affect political preferences is that the public’s perceptions and attitudes concerning inequality are divided along partisan lines (Bartels 2008). Republicans are less likely to recognize that the income gap is increasing or consider the gap as a problem. If partisanship is stratified by income, this partisan divide could be explained in that, on average, Republicans are richer than Democrats. The discussion in Chapter 1, however, shows that the relationship between partisanship and income has become weaker since 2000, while economic inequality is still increasing. In fact, voters’ perceptions and attitudes concerning inequality are ideologically motivated. If the psychological motivation to justify inequality is based on economic interest instead of ideology, the level of political information has nothing to do with attitudes toward inequality. Bartels (2008, 148–161), however, demonstrates that as the individual becomes more politically informed, the partisan difference in attitudes concerning inequality increases. When it comes to inequality, ideology trumps economic interest.

Third, the American public does not have enough information about inequality to

have policy preferences that can maximize their benefits. Voters do recognize that the income difference is increasing (Bartels 2005; McCall 2013), but they do not comprehend the extent of inequality or where they are situated in the distribution (Gimpelson and Treisman 2015; Norton and Ariely 2011). Without recognizing the extent of inequality, voters are unable to support the policy that would be best for them.

The discussion so far suggests that rising economic inequality has not motivated American voters to support economic policies in terms of their relative income position. However, this raises the following question: If inequality does not affect redistributive preferences, why are inequality and public polarization closely related?

2.1.2 Why Growth and Stagnation Matter

What is the relationship between economic inequality and growth/stagnation? Before explaining why economic growth and stagnation matter in political preference formation, I connect inequality with growth/stagnation, as these two elements are closely related in a dynamic setting. When the gap between the rich and poor increases over time, it means that the rich become richer, while the poor become poorer. To illustrate this with an example, I assume that there are only two individuals in the world. The rich one (R) earns \$10, while the poor one (P) earns \$5. Thus, R's share is two-thirds, while P receives one-third of the available wealth. Furthermore, every year, the world's economy grows by 100%, but R's share also increases by 10%. Thus, in the second year, R will earn \$23, while P's income will be \$7. R has a \$13 (130%) increase in income, but P's income grows by only \$2 (40%). Given the price level increase that will follow with the world's economic growth, the real income growth will become minimal. The gap becomes worse a year later. R's income is \$52 (a 126% increase), while P receives \$8 (a 14% increase). In a dynamic setting, the rich and poor both experience economic growth and stagnation when economic inequality increases. The disaggregated process of rising

inequality is growth and stagnation.

As I describe in detail in the next section, the fear and anxiety of economic/social loss is the main driver of political polarization. Growth and stagnation are important because they can magnify or alleviate the sense of loss. Contrary to the common understanding that the absolute or relative level of income is important, individuals have their personal benchmarks, and they base their expectations on them (Friedman 2010; Kahneman 2011). Individuals set their benchmark by comparing themselves with previous generations, their past, or their close friends and neighbors (Piketty 1995). If an individual's wellbeing hinges on continuous improvement compared to his or her parents, then this individual is less likely to be afraid of loss. Even if the individual is relatively poor, he or she will not be anxious about economic loss because he or she is better off compared with the benchmark. The same logic applies to individuals who earn more than the average income. Factory workers who currently earn \$75,000 may fear that their wage will stagnate or decrease over the next 10 years because their company is losing competitiveness in the global market. In contrast, an assistant professor who earns \$75,000 received less than half or even one-third of that salary during graduate school. This professor will expect more income in his or her future. Thus, individuals have different reference points and different expectations. Furthermore, individuals who expect deteriorating/rising living standards are respectively more/less likely to fear loss. This is why expectations concerning their futures or the country's future represent a powerful predictor of political preferences.¹

Friedman (2010) generalizes the importance of growth and suggests that economic growth has brought about a more inclusive, tolerant, open, and generous democracy.

¹Few many public opinion polls ask respondents about their future expectations. A public opinion poll on Brexit shows the importance of future expectations, as income is not a good predictor of the UK voters' choices. More than a majority (61%) of the people who voted to leave believed children's lives in the UK will be worse in the future. Almost three quarters of the voters (73%) who chose to remain believe life in Britain is better than 30 years ago, as opposed to the 58% who chose to leave who believe life is worse (Ashcroft 2016).

His theory emphasizes that policies intended to eliminate discrimination are more likely to be supported when the economy is growing because people are less afraid of the risk of losing in an open competition. The theory in this dissertation shares the idea that economic growth promotes social equality. The main difference in the present study is that economic growth for the whole nation does not necessarily mean that a large proportion of the public will enjoy improved wellbeing. After 1980, only some individuals and areas have experienced growth, while others have undergone economic disruption. The next section focuses on who experienced economic growth or stagnation and in what areas.

2.1.3 Economic Growth and Stagnation among Individuals

At the aggregate level, the degree of income inequality has been rising over the past 40 years. Yet, at the individual level, people have had diverse experiences related to economic growth. Since 1980, the income of a large group of low- and middle-income individuals has stagnated. Only the top 30% have experienced higher than 1% annual income growth (Piketty, Saez and Zucman 2017). The American economy has experienced steady growth except for a few recessions, but only people at the top of the income distribution have enjoyed improved standards of living.

Whose income has been growing or stagnating? Skill level—the level of human capital—is one of the most crucial factors determining an individual's expectation of living standard improvement. The main reason that economic inequality has been increasing is that the skill gap has been growing. The wage disparity between high-skilled, college-educated workers and low-skilled, non-college-educated workers has grown. Figure 2.2 shows the change in the real wage levels of full-time workers by education in 1963–2012. The college–non-college gap started to grow from 1980, when the rise of income inequality began. The upper panel shows that real wage levels of

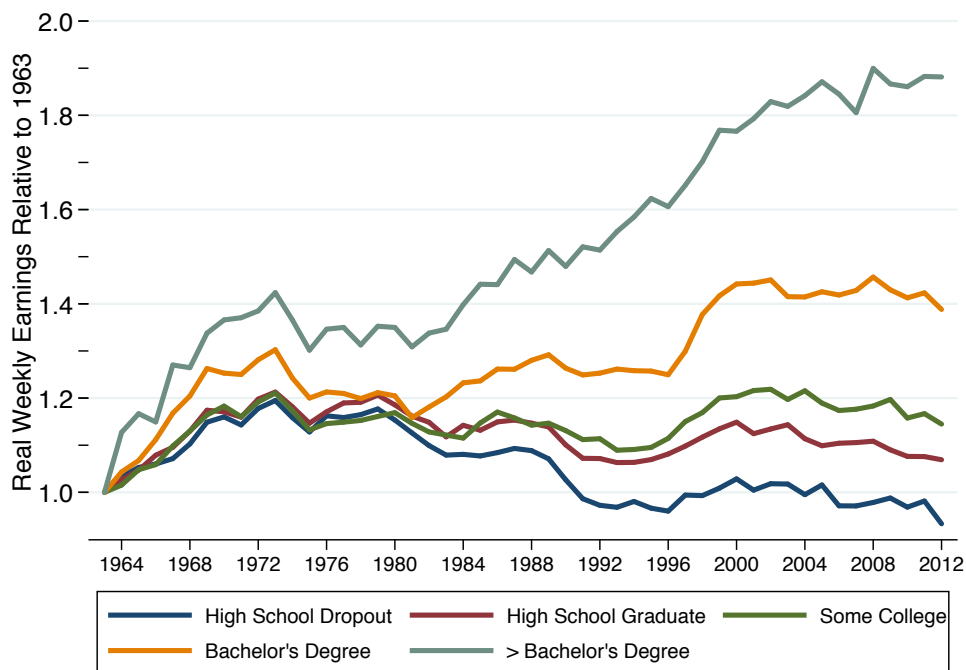


Figure 2.2: Change in real wage levels of full-time male workers by education, 1963-2012. Source: Autor (2014)

male workers without college degrees have stayed about the same (some college) or decreased (high school graduates and dropouts) compared to 1980. Given the importance of growth and stagnation, the political preferences across the college-educated and non-college-educated populations has grown over the past 40 years.

Three main vehicles of the return to skill inequality—technological advancement, de-unionization, and globalization—have driven the rising inequality. Workers that do not have the skills to work in high-paying industries—finance, technology, and electronics—have seen their wellbeing regress (Temin 2017). De-unionization has been damaging workers’ bargaining power in manufacturing industries, which suppresses wages. Globalization, especially with the increasing import competition from China, has reduced the wages of manufacturing workers and contributed to the decline in manufacturing jobs (Autor, Dorn and Hanson 2013). All these factors demonstrate that

low-skill workers, the so-called working class, have been the economic losers in the past 40 years of transformation.

McCarty, Poole and Rosenthal's (2006) and other researchers' studies have focused on income rather than education as the dividing force caused by inequality in public opinion. However, there are several problems with this approach. First, the increasing income difference between the poor and rich is not caused by someone's income. The lack of increase in poor people's earnings is not due to their poverty status. Rather, it is undeniably their skill level, not their current income, that determines their wages in the labor market. Second, family income is not static, whereas the education level rarely changes over time. An individual whose earnings were around the poverty line in 1980 could have earned an income higher than the national median in 2000. When people have expectations about their future income, they base it on their skill level rather than on their current income. Third, there is no single standard for low income, and it can vary by lifecycle, region, and family size. Individuals in their early career or post-retirement would have a lower income than those in their 40s and 50s. In addition, living expenses vary by region. Workers living in areas with a higher cost of living will have a higher income than those living in other places. While \$40,000 is enough for a married couple without a child, a married couple with three children will likely struggle financially earning only \$65,000.

2.1.4 Regional Inequality: Growth and Stagnation across Regions

... and the local people are, truthfully, 90, probably 98 percent of the local people are for this mining, you know, but you got these small groups that, you know, every day you look in the paper there's somebody writing articles against it, you know. ... We need good paying jobs. Simple as that. ... We can't afford to lose them up here. People down south have good, basically have some good advantages, getting some good paying jobs. ...They have no clue, other people don't have no clue what's going on up here. (Cramer 2016, 191)

Exploring the patterns of regional inequality is as important as understanding income inequality among individuals. Studies have shown that voters learn about the economy and decide how to vote from information from the local economy (Ansolabehere, Meredith and Snowberg 2014; Mondak, Mutz and Huckfeldt 1996; Reeves and Gimpel 2012). It is highly uncertain whether someone's economic situation will improve in the future. Voters learn about the economy via information they acquire in their daily lives (Popkin 1994), and information shortcuts obtained from everyday encounters help in forming expectations when the future is uncertain. If a major factory in an area is laying off employees, people in that area will learn that the future of their economic wellbeing is not bright. The fate of the regional economy is even more strongly tied to individual wellbeing because there is not much population exchange between rich and poor areas (Ganong and Shoag 2017).

Rising inequality has not only widened the gaps among individuals, but also the difference across regions. Over the past 40 years, economic growth has not been even across the nation. The economic discrepancy between rural and urban areas has widened. Deterioration has been geographically concentrated in the Midwest, Rust Belt, and South, where companies losing in the global market are laying off employees or even leaving the country. Meanwhile, industries with high productivity—finance, technology, and electronics—are situated along the West Coast, in the Northeast, and in metropolitan areas with massive populations.

Figure 2.3 displays the average household income change from 1990 to 2007. The map shows how the economy is geographically polarized across the United States. Another important pattern to note is the urban–rural divide. Within states, urban commuting zones (CZs) have higher household income growth than rural zones do.² Figure 2.4

²Commuting zones (CZs) are geographical units that are like Metropolitan Statistical Areas, except they cover rural counties. Tolbert and Sizer (1996) and Dorn (2009) developed CZs to measure local labor markets. There are 709 CZs total.

1990–2007 Average Household Income Change by Commuting Zones

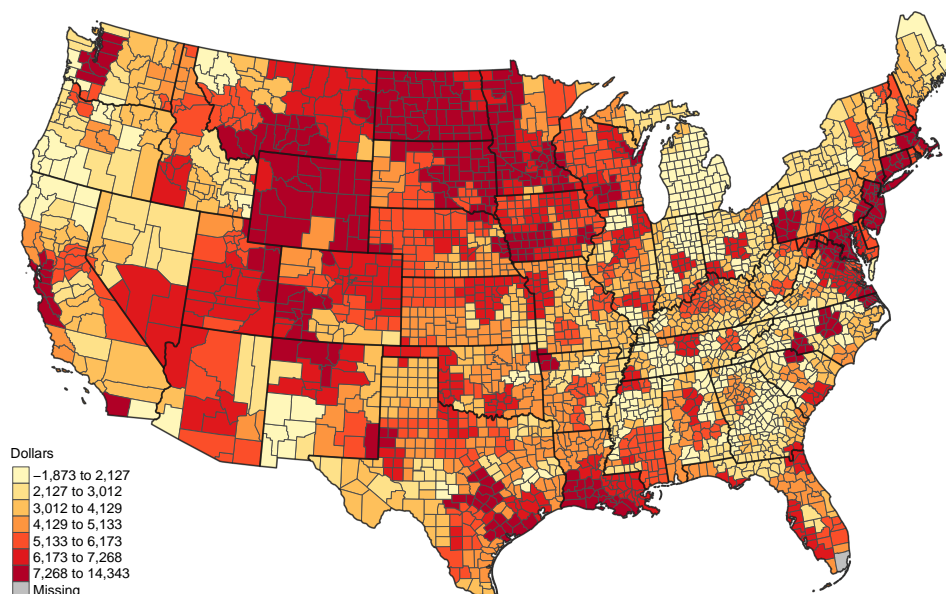


Figure 2.3: Average Household Income Change 1990–2007 by Commuting Zones
 Source: data from Autor, Dorn and Hanson (2013). Calculated by the author.

shows the extreme geographical disparity in the economy. From 2000 to 2016, home prices in most areas of the Midwest, Rust Belt, and South decreased or stagnated, while the West Coast, Sun Belt, and Northeast boasted a booming real-estate market. At the same time, both parts of the map confirm the growing geographical inequality.

Voters living in areas reliant on industries that are losing competitiveness develop resentment toward people and areas that have booming economies. The terms “coastal elites” and “urban elites” reflect people’s sense of geographic inequality. A deteriorating economy would lead people to adhere to identity politics. Voters in those areas exhibit growing antipathy toward the party that gained support from coastal and urban voters, namely the Democratic Party. Cramer (2016) calls these political attitudes “rural consciousness.” She interviewed rural Wisconsinites to understand the resentment that partisans hold for each other. Her interviewees expressed their sense of deprivation in terms of resources and power. They resent people who do not respect their lifestyles, values, and hard work. This animosity is directed against racial minorities, urbanites,

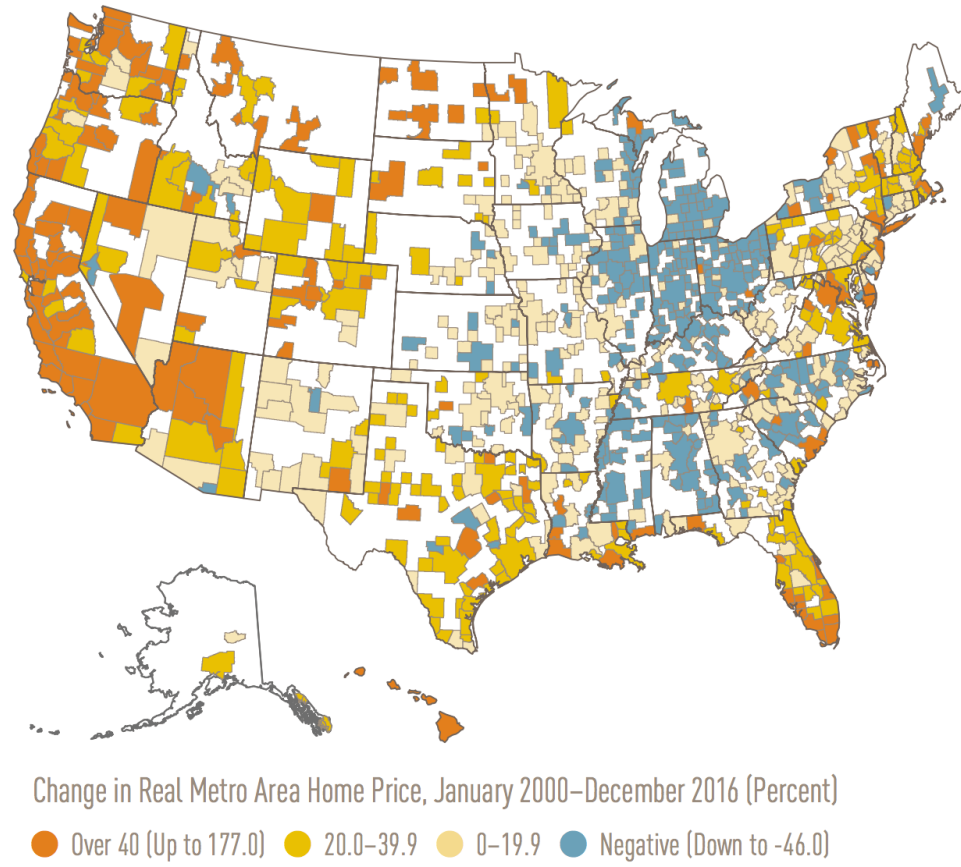


Figure 2.4: Change in Real Home Price 2000-2016 by Metro Area
Source: Joint Center for Housing Studies (2017, p. 2).

decision makers, and the political representatives of these groups—liberals.

By disaggregating the dynamic increase in economic inequality in the United States to the individual and regional levels, the discussion so far has illustrated that individuals and regions have had diverging experiences related to economic growth and stagnation over the past 40 years. The next step for the theoretical roadmap is delineating how the fear and anxiety related to the economy affects voters' identity and political attitudes.

2.2 The Political Impact of Economic Anxiety

How do experiences of economic stagnation or growth lead to more conservative or liberal political preferences? In this section, I will explain the psychological impact of growth and stability on policy preferences and social identity. The existence or absence of anxiety and fear regarding a loss in social and economic status drives voters apart regarding social issues and identity politics. I will first discuss how the fear of open competition motivates individuals to hamper social equality. Then, I will turn to the psychological underpinning of in-group versus out-group identity politics.

2.2.1 Preferences Regarding Social Equality

'Blacks, women, immigrants, refugees, brown pelicans – all have cut ahead of you in line. (Hochschild 2016, p. 139)

Preventing loss is the number one guiding principle of individuals whose economic situation has not improved. To individuals experiencing stagnation, any policies ensuring social equality to disadvantaged groups represent risks. Loss aversion is an inherent tendency involved in the psychology of wealth, risk, and decision making in everyday life (Kahneman and Tversky 1979; Tversky and Kahneman 1991). People

develop emotional attachments to already what they have, so they attempt to preventing losing what they already have rather than attempting to gain something new. This tendency also applies to policy preferences. Individuals who are anxious about losing their position in the economic and social hierarchy tend to prefer status quo policies.

One good example of loss aversion is the policy preferences of the white working class. The white working class has a keen interest in opposing the abolishment of policies that are discriminatory against minorities. These members of the white working class believe that while they are suffering from a dire situation, minorities may receive opportunities to get ahead through policies promoting racial equality. These whites believe that they are losing their own opportunities in the competition for scarce resources, and they feel that the situation is unfair. To explain the interests of economically disadvantaged white individuals, Weeden and Kurzban (2014, 96-99) use the analogy of Major League Baseball (MLB) segregation. White MLB players who are on the lower border of the Major Leagues or in the minor leagues were likely to oppose the desegregation of the white and black leagues because they were likely to lose their jobs, while the top white players did not mind desegregation. If the MLB commissioner pushes for policies that support quotas for black players, disadvantaged white players will feel they are being treated unfairly. In the same vein, voters experiencing economic stagnation and anxiety about retaining their status are less tolerant of open competition for scarce resources.

Interestingly, voters' economic situations motivate their preferences regarding social equality. Thus, these seemingly unrelated areas are connected in voters' minds. In fact, issues regarding social equality and an individual's economic situation are closely related. Voters are generally more attentive to the issue of equal economic opportunity than equal outcomes, as I discussed in a prior section. Given this attentiveness, voters are aware that having a more inclusive or exclusive law can be pivotal in the economic wellbeing of certain groups. Because voters can connect that the idea of promoting

social equality with the creation of uncertainty regarding everyone's living standards, it is natural for voters to link economic issues to the issue of social equality.³

Acharya, Blackwell and Sen's (2016) explanation of how Southern whites responded to the abolition of slavery demonstrates how economic, social, and racial status are intertwined. After the emancipation of Southern slaves, the economic and social structure of the South became tumultuous. The plantation economy of the South now had to incur the unexpected costs of the emancipated black labor force. Whites' and blacks' roles in the social hierarchy changed as well. To cope with these expected changes, Southern whites adopted Jim Crow laws and developed racist attitudes against blacks. They found a way to maintain the existing economic and social order using institutional and attitudinal means. Thus, an economic threat motivated policy preferences intended to maintain the status quo and biased racial attitudes.

Studies that view whites' racial attitudes as symbolic racism rather than self-interest would disagree that economic stagnation causes racially biased attitudes and opposition to social-equality-enhancing policies (Sears, Hensler and Speer 1979; Sears et al. 1980). Measurements of symbolic racism, however, show that whites' resentment is fundamentally based on economic problems. A four-question battery that measures symbolic racism includes questions on hard work, deservingness, getting ahead, and economic status.⁴ Whites' answers to these questions indicate that they are fine with the possibility of blacks being ahead of them financially. Economically disadvantaged white voters are unlikely to agree that blacks deserve a higher economic position when they

³Kim, Pedersen and Mutz (2016) asked respondents to describe their understanding of equality. They found that issues regarding social equality, such as gender and racial equality, were more frequently mentioned. This result also shows how much voters think about social equality.

⁴Here are the four questions that measure symbolic racism in the American National Election Studies: 1) Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors. 2) Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class. 3) Over the past few years, blacks have gotten less than they deserve. 4) It's really a matter of some people not trying hard enough, if blacks would only try harder they could be just as well off as whites.

themselves are trailing behind. Furthermore, as shown in Chapter 3 and Sears, Henry and Kosterman (2000), measures of symbolic racism are highly correlated with responses to three egalitarianism statements intended to determine whether society has pushed “too far” in its quest for equality.⁵ Indeed, disadvantaged whites are likely to believe that the quest for equality has gone too far if they feel that their economic position is close to that of blacks.

The “cut the line” is a powerful way to describe how competition between whites and minority groups relates to self-interest. The Tea Party supporter quoted in Hochschild (2016) believes that minorities cut in line, meaning that they are getting ahead unfairly. A person who is standing at the front of the line would neither notice nor care who cuts in line. Even though it is known that disadvantaged white voters have a vested interest in opposing social equality, why they mind the status of minorities, as opposed to the status of the rich, remains unknown.

2.2.2 The Economy and Group Identity

In this section, I explain why I expect that economically vulnerable citizens identify with their race and have stronger out-group bias, particularly racial bias. Extremely few research studies have assessed how economic hardship affects social identity and inter-group bias. Priming subjects with economic scarcity causes them to perceive African Americans’ skin color to be darker (Krosch and Amodio 2014). Roma adolescents, members of an ethnic minority in Hungary, are more likely to identify themselves as being of Roma descent when they experience economic difficulty (Simonovits and Kézdi 2016). These studies suggest that economic vulnerability and social identity are

⁵The three questions asking if the society has pushed equality too far are the following: 1) We have gone too far in pushing equal rights in this country. 2) It is not really that big a problem if some people have more of a chance in life than others. 3) The country would be better off if we worried less about how equal people are.

connected, but the theoretical mechanism connecting them remains underspecified.

Studies on social identity reveal that contexts related to economic stagnation, a threat to oneself or one's group (Branscombe et al. 1999), high uncertainty (Hogg and Abrams 1993; Hogg 2000), and a need for higher self-esteem (Hogg and Abrams 1990; Rubin and Hewstone 1998) strengthen social identity and lead to greater out-group bias (Hewstone, Rubin and Willis 2002). The presence of threats is one of the major reasons for group members to display out-group bias. Social psychology research studies indicate that a threat is likely present when an individual or a group experiences economic hardship. Such a threat to the individual or group competence causes out-group derogation (Branscombe and Wann 1994), specifically higher levels of racism (Branscombe, Schmitt and Schiffhauer 2007), as a defense mechanism. Social identity is an important source of self-esteem (Tajfel and Turner 1979). Financially insecure individuals are motivated to identify with their group in an attempt to enhance their self-image, which can be harmed by insecurity. White working-class people who are experiencing economic hardships attempt to increase their self-esteem by identifying the negative aspects of out-groups, perceiving blacks as lazy and themselves as hardworking (Lamont 2000). Finally, economic insecurity causes high levels of uncertainty among people because they are unsure about how to pay their bills, educate their children, and prepare for the future. These individuals are motivated to reduce uncertainty by identifying with their in-group. They can also follow the prescribed behavior or group prototype, which provides a normative standard.

Ethnographic studies on white working-class communities in a failing economy show how social identity theories operate in real life (Hochschild 2016; Lamont 2000; Sherman 2009). Members of these communities emphasize the importance of working-class morality in preserving their identity. Work ethic and family values are the two main strains of this morality. These moral values give them dignity and a loftier self-image

than blacks. Ironically, communities emphasizing these values face increasing numbers of failing families and a non-working population.⁶ In a way, such moral values are coping strategies (Sherman 2009, Ch.2) intended to maintain social order in crumbling communities and preserve their past greatness. Encouraging people to hold the moral high ground acts as a counteracting force against the uncertainty and disruption experienced in these communities.

2.3 Why Is There No Polarization in Redistributive Preferences?

If income inequality causes polarization, the first intuitive reason that income inequality causes polarization is differences in redistributive preferences. However, attitudes regarding welfare and economic redistribution do not lead to polarization as economic differences increase. In this section, I explain the lack of polarization in redistributive preferences.

Voters would want more redistribution when they are stressed about their economic situation. This is an intuitive idea because voters want to alleviate their vulnerability and maximize their own pocketbook through government programs. Existing studies share the same assumption that individuals going through economic turmoil will seek government assistance (Fong 2001; Hacker, Rehm and Schlesinger 2013; Margalit 2013; McClosky and Zaller 1984; Rehm 2009, 2011). This assumption, however, dismisses the fact that voters consider another side of the coin when it comes to redistribution: deservingness. Deservingness is separate from voters' motive to maximize their material

⁶Vance (2016, 57-58) describes the reality of these communities: "People talk about hard work all the time in places like Middletown. You can walk through a town where 30 percent of the young men work fewer than twenty hours a week and find not a single person aware of his own laziness ... the rhetoric of hard work conflicts with the reality on the ground."

interest. Voters care if they are going to lose or gain with redistribution (“redistribute from”); however they also mind where the money goes (“redistribute to”) (Cavaillé and Trump 2014). Citizens would like to know if taxpayer money is being spent on the people who work hard enough to deserve it. If they believe the main recipients of redistribution do not deserve the benefit, they will oppose welfare programs, regardless of their likelihood to receive welfare assistance.

The classical self-interest model for redistributive preferences divides the public into the rich and the poor. The rich do not want to lose their money, and the poor demand more redistribution. Deservingness complicates the division by introducing race and ethnicity. Individuals believe a group of people deserve government support based on their social affinity. The closer they feel to the group that receives welfare benefits, the more likely they are to think the group deserves those benefits. Because of the group-based nature of social affinity, race and ethnicity play a crucial role in supporting welfare policies. Gilens (1999) demonstrates how deservingness and race play a role in the American public’s support for welfare policies. Using survey data, he shows that the best predictor of welfare policy support among white Americans is their opinion of whether blacks work hard enough. White people, regardless of being rich or poor, who believe blacks lack deservingness have a higher chance of opposing government programs and supporting a spending cut.

The transition from the New Deal to the War on Poverty eroded the support of the white working class for welfare policies. Two major factors make deservingness a more important factor for welfare policy preference: the degree of benefit concentration and the extent of group/poverty overlap (Cavaillé 2015). When government programs support only citizens living below the poverty line, as opposed to programs that support the wider public, the voters’ belief in the welfare recipients’ deservingness becomes pivotal in their support for welfare policies. Before the War on Poverty, the face of welfare policies

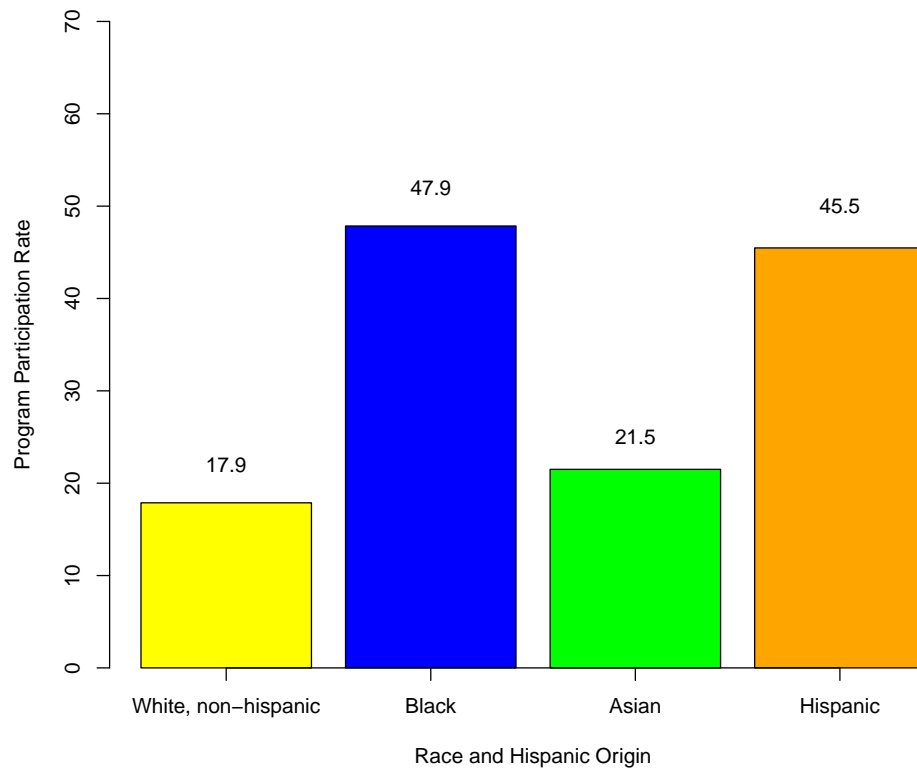


Figure 2.5: Program Participation Rates in Major Means-Tested Programs by Race and Hispanic Origin (Participated 1 or More Months): 2009–2012 (Irving and Loveless 2015)

was more universal with programs such as social security and unemployment insurance. These policies were not concentrated on the poor. After adopting new means-tested government programs, like Food Stamps (Supplemental Nutrition Assistance Program) and Medicaid, the support of the white working class for welfare programs started to decrease. In addition to the benefit concentration, the degree of overlap between people living in poverty and racial or ethnic groups leads voters to engage in stereotyping and to hold the belief that poor people are undeserving. Figure 2.5 shows the proportion of racial and ethnic groups who have participated in at least one month of means-tested government programs from 2009–2012. According to the Survey of Income and Program Participation (SIPP) 2008 Panel conducted by the U.S. Census Bureau, 47.85% of black citizens and 45.48% of Hispanic people were living below the poverty line. White individuals who are economically vulnerable are more attracted to the narrative of the welfare queen than to requesting more government support.

Social psychology research provides another reason for why polarization is not seen in economic policy preferences: system justification theory (Jost and Banaji 1994; Jost, Banaji and Nosek 2004). Studies show economically disadvantaged individuals who have less incentive to justify economic inequality display a tendency to endorse the unequal system, particularly when they learn about the reality of inequality (Brandt 2013). Trump (2017) conducted a survey experiment demonstrating that individuals who are given information about income inequality in the United States tolerate a higher level of inequality. Motives that make individuals believe they are living in a just world also lead them to legitimize the existing social order. These system-justifying individuals are less likely to demand more redistribution.

2.4 Politicians' Role in Polarization

So far, the discussion has centered on how individuals alter policy preferences and group identity; however, it has not considered the role of politicians in polarization. Without Republican lawmakers responding to the white working class agenda and Democratic politicians promoting social equality, voters would not polarize. In this section I will explain the incentives behind the Republican and Democratic agendas.

On June 10, 2014, a House Majority Leader lost a primary election for the first time in American history. Eric Cantor, then the House Majority Leader and representing Virginia's 7th congressional district, lost a primary challenge from Tea Party candidate Dave Brat. The media produced numerous analyses of this surprising upset, but there was one common thread among the many reasons journalists gave for Cantor's loss: Brat's immigration message. Brat gained momentum the moment he switched his campaign message to immigration. He found a working message, and the GOP primary constituents responded.

Politicians constantly try to find a winning message to gain support. Choosing a message and a group to target are important, particularly when the economy and demographics are changing. As most voters' wages have stagnated, politicians and parties must respond to this transformation. What would politicians expect from this changing environment? Conventional wisdom would suggest both the Democratic Party and the Republican Party must respond by increasing demand for redistribution.

The discussion I have offered thus far and both parties' positions on redistribution clearly show this is untrue. How have the two parties responded to the increasing income gap? To what extent have politicians contributed to a counterintuitive polarization in identity politics and no polarization in redistributive preferences?

Broadening the perspective beyond the United States, class politics is not prevalent

in countries with high income inequality; rather, ethnic parties prevail in those countries. Huber (2017) explains this counterintuitive pattern using the logic of a minimum winning coalition. Assuming parties can choose to represent either a class or an ethnic group, they should pick the smallest possible group that is larger than the majority. That way, the winning party and the represented group can share the government pie with a smaller number of people. Countries with high inequality are likely to have a larger group of people whose income is below average. With the increasing number of poor people, class-based parties have bigger groups to represent. When the population of majority ethnic groups becomes smaller than the number of the poor, ethnic parties are likely to obtain a minimum winning coalition. Voters who are both poor and part of an ethnic majority have more incentive to vote for the ethnic party over the class party to obtain more government benefits.

Huber's theory obviously does not fit well with the past 40 years of American politics. However, some intuitions could be applied to the American case. First, Republicans gained an opportunity to become a party of whites, as an increasing number of whites have struggled with their living conditions. Democrats dominated Congress for almost 60 years through the New Deal coalition, which comprised labor unions, the blue-collar working class, farmers, minorities, and white Southerners. After the Democratic Party aligned with the civil rights movement, white Southerners left the party. The increasing gap between the rich and the poor, though, was supposed to be a promise to the Democratic Party. Instead, the Republican Party mobilized the white vote to win back Congress and national elections. Appealing to the problems of welfare programs, law and order, and family values worked to build the GOP's minimum winning coalition. Second, Republicans appeal to the white working class in a similar vein, which works as an appeal to a minimum winning coalition. GOP politicians have not said they would deliver government benefits only to the white working class while limiting

benefits to minorities. However, they did focus on how taxpayer money is wasted on paying undeserving people. Wasted government spending could be as strong a message as concentrated spending to the white working class. Prospect theory teaches how people respond to loss, and campaigning based on how the government wastes tax money could be a powerful message (Denny 2017; Tversky and Kahneman 1981). Third, Democrats were unable to appeal to both white working class and black votes because Republicans found a way to divide these two groups. Huber describes this as a credible commitment problem. He assumed parties could credibly commit to either an ethnic group or a class. According to this assumption, parties cannot arbitrarily pick a subset of a group to represent. Instead, parties attempt to canvass a subset of groups. Democrats reached out to both the white working class and blacks. The white working class and the affluent were the Republicans' targets. However, the credible commitment problem explains why Democrats have been losing white working-class voters. Democrats could not credibly commit to the white working class when Republicans raised issues of welfare recipients' deservingness. To the suffering white working class, helping undeserving minorities means not hearing and not responding to the voices of people like themselves.

Chapter 3

Have Voters Become Polarized as Income Inequality Rises?

In the previous two chapters, I argued that economic inequality has caused the polarization of the mass public, specifically in preferences in identity politics and social issues. In this chapter, I will provide empirical evidence showing that the extent of polarization in the mass public is correlated with the degree of income inequality. Furthermore, I will suggest that only one dimension of the two dimensions of ideology in the public is correlated with inequality. That dimension represents ideology in policy issues related to racial, ethnic, gender, and sexual identity as well as social issues.

Providing evidence showing that public polarization exists is critical because there is no consensus regarding the existence of polarization in the mass public. There are two main camps in the debate. One group of scholars argues that the mass public is polarized (Abramowitz and Saunders 2005, 2008; Abramowitz 2010; Baldassarri and Gelman 2008; Jacobson 2003, 2015). According to this view, the ideological center is disappearing as a result of increasing partisan alignment with the two parties. The divide in the public is closely related to polarization in the Congress. The other group of scholars disagree

about the polarization of the public (Fiorina, Abrams and Pope 2006, 2008; Fiorina and Abrams 2008, 2012; Hill and Tausanovitch 2015). These scholars argue that there are large groups of ideological moderates who are not recognized under the polarization paradigm. The public's ideological view and policy preferences have rarely changed because the public is less informed and not ideological, as Converse (1964) argues. Even though the debate is still unresolved, there are two points that are less disputed regarding public polarization. The first point is partisan sorting (Levendusky 2009). Partisans are sorted into proper ideological camps that fit with their political views. Co-partisans share similar ideology due to the sorting. The second point is affective polarization (Iyengar, Sood and Lelkes 2012; Iyengar and Westwood 2015). Studies on affective polarization try to understand polarization through the perspective of social identity perspective. Even though it is unclear if the ideological distance between partisans has widened, it is evident that negative feelings across party lines have been increasing over time.

Transcending their difference, there is a common ground between these two groups of scholars. They regard ideology as a single dimension. It is intuitive to perceive ideology as a liberal-conservative single dimension. In everyday life, people speak ideology in a single dimension. Most survey data reports ideology in a 5- or 7-point liberal-to-conservative measure. Since most of the studies on political elites ideology are based on one dimension (Bonica 2013; Clinton, Jackman and Rivers 2004; Martin and Quinn 2002; Poole and Rosenthal 2000), it is easier to map the public's ideology in relation to elites using the same one dimension. However, despite this advantage of the one-dimension assumption, there are serious problems with it. First, there is a strong reason to believe the typical liberal-conservative dimension and the dimension regarding racial and social issues are different, as I discussed in Chapter 2. Second, the way that existing studies summarize ideology tends to overestimate the number of moderate voters (Broockman 2016). Broockman shows that existing "ideology scores"

tend to represent ideological consistency rather than extremity. Given that large number of voters have conflicting social issue and economic policy preferences, these voters would get a moderate ideology score, which is misleading. Third, the public's ideology is more multidimensional than the elites' ideology. Converse (1964) suggests that as voters become less informed, their ideology structure becomes multidimensional. Large groups of voters are uninformed; thus, it is reasonable to assume voters have more than one dimension of ideology.

In this chapter, I estimate ideology in two dimensions. I show that the first dimension, the typical liberal-conservative dimension, does not display a pattern of polarization, but partisans show increasing ideological distance in the second dimension, which represents identity politics and social issues. In addition, the trends of the second dimension and economic inequality over the past 40 years are tightly correlated. I further demonstrate the roots of two dimensions and how these two dimensions are associated with partisan antipathy.

3.1 Data

I measure ideology using American National Election Studies (American National Election Studies 2014) data from 1980 to 2012.¹ I choose to analyze from 1980 because it is when income inequality started to grow. A total 47 questions are selected for the estimation. The choice of questions is based on Hill and Tausanovitch (2015) in order to make the study comparable to existing research that conducted along best practices in the field. However, I amended the model used by Hill and Tausanovitch by adding six questions. These questions, which are based on the work of (McClosky and Zaller 1984),

¹I removed observations from 2002 ANES when I present the result. ANES 2002 is the first year that it could not secure National Science Foundation funding, thus the survey was conducted with limited funding. ANES only asked 10 policy questions that year. Figure 3.8 shows the results from 2002 are off than other years.

are used to observe the relationship between egalitarianism and ideology. Additionally, five foreign policy questions were removed as they were distinct from the other sets of questions.²

3.2 Estimating Ideology with the Two-Dimensional Ordinal Item Response Theory Model

The statistical model I use to estimate ideology is an item response theory (IRT) model that is similar to the one used by Hill and Tausanovitch (2015). Using an IRT model, I can obtain a continuous latent variable that is not directly observable from data. The model assumes that respondents answers to policy questions are a function of their ideology, which is the latent variable that I estimate. The goal of IRT estimation is to uncover the latent variable through observed responses in the data.

I use Bayesian estimation for the IRT model. The biggest advantage of using the Bayesian approach is its power in dealing with missing data. Time series public opinion data suffers two types of problems related to missing information. First, each survey year asks different sets of questions. ANES adds timely policy issues in the survey and drops dated questions. Some crucial questions regarding gays and lesbians, school prayer, and federal spending are irregularly included in the surveys. It is difficult to

²Foreign policy preferences tend to form an independent dimension because they show a low degree of correlation with economic or identity/social dimensions (Treier and Hillygus 2009). It is better to run a three-dimensional model if I include foreign policy questions. But the model here is based on two-dimensions, so I decide to drop the five foreign policy questions.

Here are the five questions removed from Hill and Tausanovitch (2015) selection: 1) This country would be better off if we just stayed home and did not concern ourselves with problems in other parts of the world. 2) Some people feel it is important for us to try to cooperate more with Russia, while others believe we should be much tougher in our dealings with Russia. 3) Some people believe that we should spend much less money for defense. Others feel that defense spending should be greatly increased. Where would you place yourself on this scale or haven't you thought much about this? 4) In the future, how willing should the United States be to use military force to solve international problems – extremely willing, very willing, somewhat willing, not very willing, or never willing? 5) Should federal spending on foreign aid be increased, decreased or kept about the same?

obtain a good time series trend with questions that are not asked regularly. Furthermore, observations have to be deleted for the other methods that estimate latent variables like factor analysis, which means only a few questions can be used throughout the whole time series. Second, policy questions have more “Dont Know” (DK) responses than other types of survey questions. More than half of respondents answer at least one DK among policy questions (Treier and Hillygus 2009). With the prevalent missingness in the policy questions, non-Bayesian latent variable estimation methods cannot use more than half of the observations.

The Bayesian IRT model that I use in this chapter is a two-dimensional ordinal model. Ordinal IRT models allow the researcher to retain information regarding how strongly respondents answer on each question (Hill and Tausanovitch 2015). It also keeps the ordinal structure of responses (Treier and Hillygus 2009).³ With a two-dimensional model, an observed response is a function of two latent variables rather than one, as in a one-dimensional model. Through this modeling, it can estimate two orthogonal latent variables.

The quantities of interest in the two-dimensional ordinal IRT model are the two latent variables θ_{i1} and θ_{i2} of individuals $i = 1, \dots, N$. These two variables would be two dimensions of the ideology score of person i . Person i 's answer to question j is y_{ij} . There are total K_j response options to each question j . If questions j has 5 response categories, then $K_j = 5$. Person i can choose one of the K_j categories, where $y_{ij} = k$ denotes person i 's choice k to question j .⁴

To model person i 's probability of answering k to question j , the IRT model needs item parameters. For each question, item, there are parameters β_j , an item discrimination parameter, and $(\alpha_{jk})_{k=1}^{K_j}$, which are item difficulty cut points. Bringing these two concepts

³Hill and Tausanovitch (2015) uses multinomial IRT model. Yet, they present the result from an ordinal IRT model and find highly similar result (p.1062).

⁴I follow terminology and notations from Fariss (2014).

into an ordered logistic regression framework, item discrimination β_j is similar to a slope and item difficulty cut points α_{jk} are comparable to cut points as presented in equation 3.1.

The probability that individual i choosing k to answer j is

$$Pr(y_{ij} = k) = F(\alpha_{jk} - \theta_{i1}\beta_j - \theta_{i2}\beta_j) - F(\alpha_{jk-1} - \theta_{i1}\beta_j - \theta_{i2}\beta_j) \quad (3.1)$$

where $F()$ indicates the logistic cumulative distribution function.⁵ The likelihood here is ordered logit likelihood. The complete likelihood function is expressed as

$$\prod_{i \in N} \prod_{j \in J} \prod_{k \in K_j} [F(\alpha_{jk} - \theta_{i1}\beta_j - \theta_{i2}\beta_j) - F(\alpha_{jk-1} - \theta_{i1}\beta_j - \theta_{i2}\beta_j)] \quad (3.2)$$

where J is the set of all questions.

To estimate my two-dimensional ordinal IRT model, I use the software `mcmcpack` (Martin, Quinn and Park 2011). The major reason for using `mcmcpack` is computing time. Estimating a two-dimensional model takes significantly more computing time than does a one-dimensional model. One issue with `mcmcpack`, however, is that it cannot handle large number of observations and items. To successfully compute posterior distributions, I must randomly choose 10,000 samples out of the total 27,666 observations.⁶ I use normal priors for every item parameters α and β and latent variables θ_1 and θ_2 .⁷

⁵In ordered logistic regression framework, $\alpha_{j0} = -\infty$ and $\alpha_{jK_j} = \infty$. Thus, the probability of $k = 1$ is $Pr(y_{ij} = 1) = F(\alpha_{j1} - \theta_{i1}\beta_j - \theta_{i2}\beta_j)$. When $k = K$, the probability is $Pr(y_{ij} = K) = 1 - F(\alpha_{jK-1} - \theta_{i1}\beta_j - \theta_{i2}\beta_j)$

⁶To estimate posterior distributions of the two latent variables θ_{i1} and θ_{i2} from the whole sample, a two-step method is the best way to reduce computing time and to keep the whole 27,666 observations. First, estimate the item parameters through `mcmcpack`. Then, estimate the two latent variable through Markov Chain Monte Carlo (MCMC) using JAGS or STAN and by specifying the obtained item parameters. The random sampling does not produce odd results.

⁷I run the algorithm 500 iterations as burn-in. Then 2,000 iterations were done for inference.

3.3 Inequality and Public Polarization

In this section, I will present the trends of two indicators, income inequality and polarization in the public, and the correlation between them. To display this polarization, however, I must define a measure of polarization. McCarty, Poole and Rosenthal (2006, 3) define polarization as “a separation of politics into liberal and conservative camps.” The polarization process contains two different facets. First, parties and ideologies are more aligned; Democrats are liberals and Republicans are conservatives.⁸ Second, the two parties are moving in opposite directions. The best way to capture these two facets is to use the polarization index that McCarty, Poole and Rosenthal (2006) utilize to demonstrate that income inequality and political polarization in Congress are related. Their polarization index measures the distance between the median DW-NOMINATE scores of each party. I use the same measurement strategy to operationalize public polarization. In this research, public polarization is measured by the distance between ideology scores of the median Democrats and the median Republicans.

In this study, there are two dimensions of ideology scores. The first dimension is the typical liberal-conservative dimension that explains preference regarding big government versus small government. The second dimension is identity/social dimension. This dimension is related to preferences in identity politics and social issues. Issues related to this dimension include civil rights, gay and lesbian issues, school prayer, and abortion.

I use Gini index to measure income inequality. Measuring income inequality is an even more complicated task. There are more than twelve ways of presenting inequality (Cowell 2011, Ch.2). Between the two most widely used measures – the Gini index and top income share (Piketty and Saez 2003) – I choose the Gini index for couple of reasons.

⁸Levendusky (2009) defines this process as sorting. But he describes party polarization and sorting are similar process.

First, the top income share matters less for mass public preferences. Even though the top income share measures better capture the top one percent of income earners' shares, the mass public's income belongs in the bottom 99% of the distribution. Second, the Gini index measures the inequality of the whole distribution. The top income share only represents the inequality of the top versus everything beneath. On the contrary, the Gini index can capture the inequality between the bottom and the middle or the middle and the upper middle. Third, Gini data are as granular as the top income share data. The Census Bureau provides the yearly Gini index from 1947 on.

In Figure 3.1, I plot the public polarization index of the identity/social dimension and the Gini indices from 1980 to 2012. These two trends are highly correlated with a correlation coefficient of 0.89. This degree of correlation is close to the 0.94 correlation determined by McCarty, Poole and Rosenthal (2006) . These values provide strong evidence that the correlation between inequality and polarization does apply to ideology in both the elites and the public. To take a closer look at the two trends, the strength of correlation was weak in the 1980s. A rapid increase in polarization in 1992 caught up with the rising income differences of the 1980s. Both the speed of economic divergence and the difference in partisan ideologies stabilized in the second half of the 1990s. There was a second boost of inequality after 2000, and the trend of polarization closely followed that pattern.

The polarization in the economic dimension, however, does not show a pattern as close as that of the identity/social dimension. Figure 3.2 displays that differences in ideology regarding economic issues have not increased as inequality did. This finding directly contradicts the logic of McCarty, Poole, and Rosenthal (MPR). They argue in Chapter 3 that the electorate's vote choices have become more polarized by income. The key idea that connects income with vote choice is that inequality makes the well-off oppose liberal economic policy and the poor demand more redistribution. However,

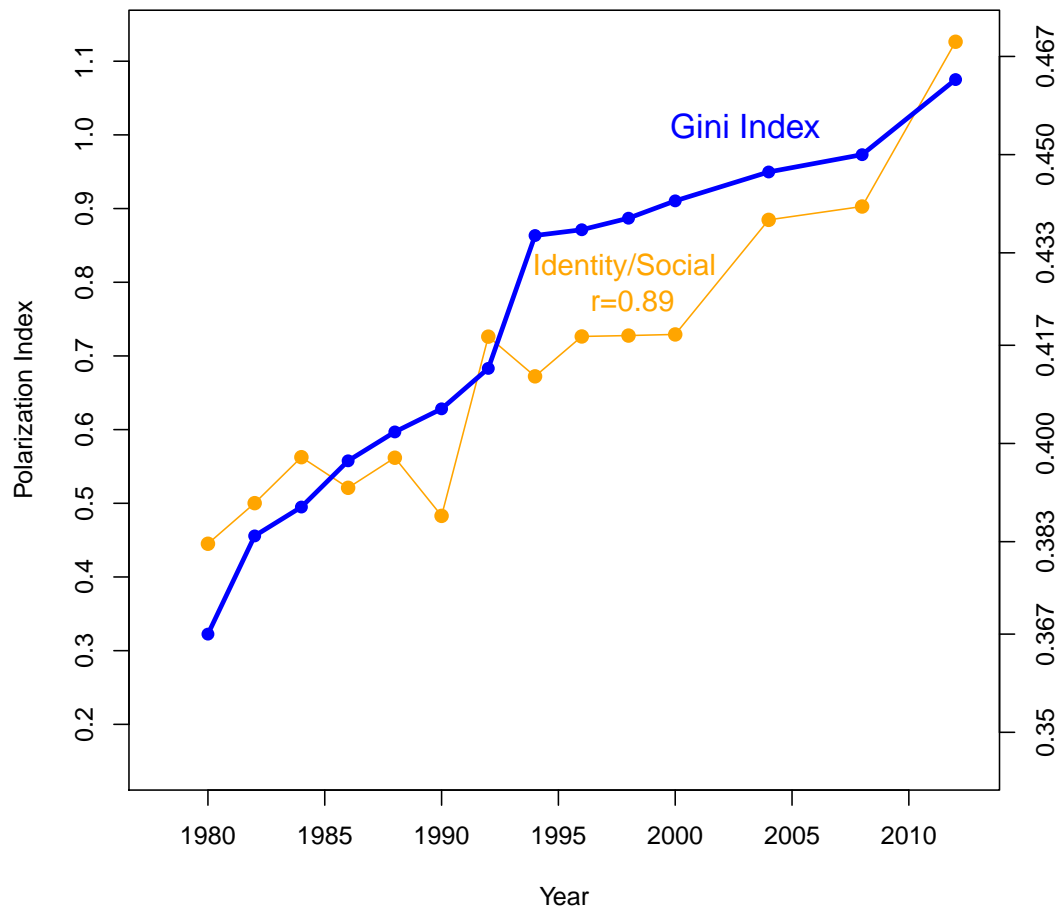


Figure 3.1: Income Inequality and Public Polarization in the Identity/Social Dimension (1980-2012)

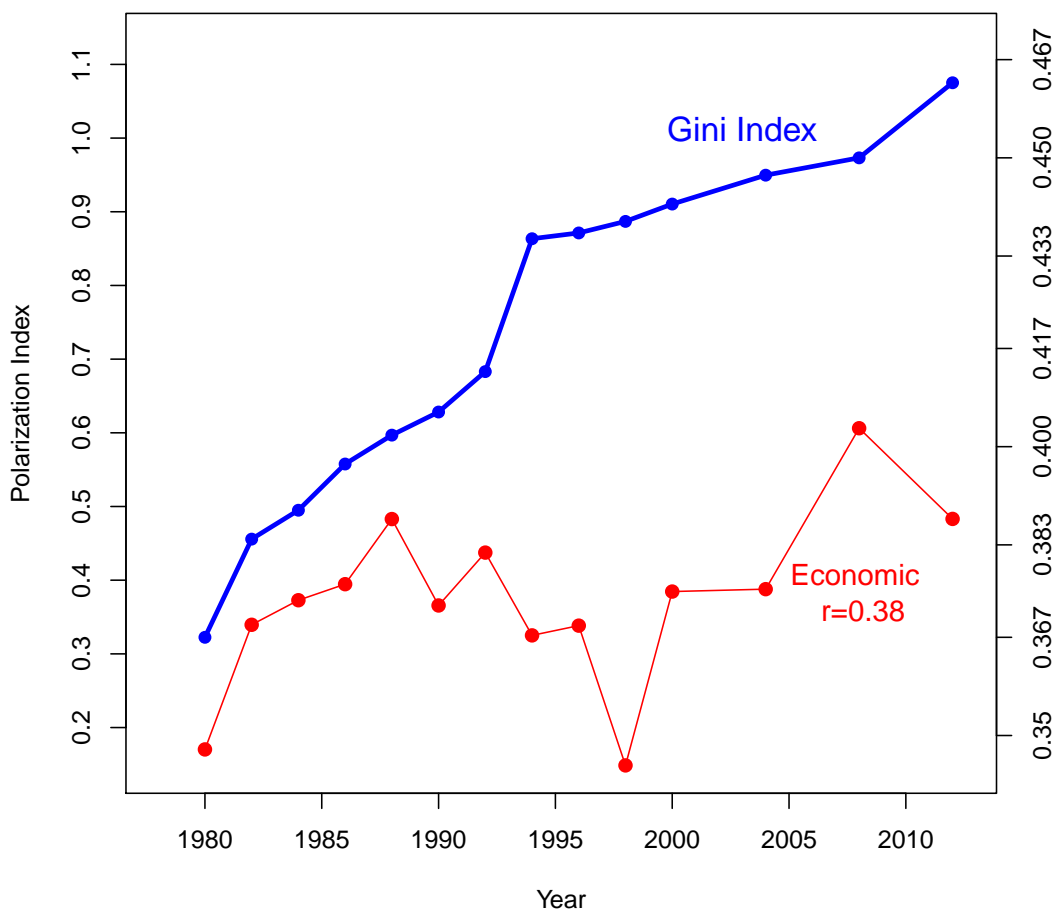


Figure 3.2: Income Inequality and Public Polarization in Economic Dimension (1980-2012)

ideology in economic policies has not been polarized as MPR describe. This finding suggests that there is something besides economic policy preference that explains the increasing relationship between income and partisanship.

Which direction is each party heading in the two dimensions? Figure 3.3 presents the party median ideology score by year for both dimensions. The left plot reaffirms the problem of MPR and existing studies that emphasize the role of redistribution preferences. Democrats and Republicans are both moving in a conservative direction. Contrary to

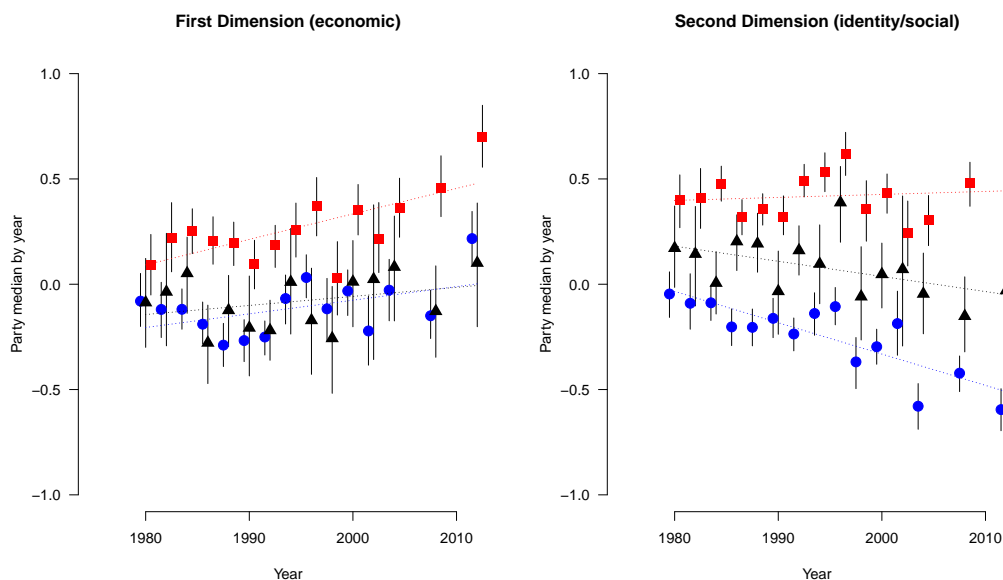


Figure 3.3: Party Median Ideology Score by Year (1980-2012)

conventional wisdom, median Democrats are not demanding more redistribution. Instead, Democrats have moved significantly in the identity/social dimension as shown in the plot on the right. Republicans maintained a conservative position from the 1980s on. In the identity/social dimension, Democrats in the 1980s were positioned as moderate, but moved to a liberal position over time.⁹

To summarize the findings so far, economic inequality has been growing, but Democrats and Republicans are not pulling apart in economic issues. Two parties are separating along the axis of identity/social issues. Although the two trends seem unrelated, polarization in identity/social issues and increasing income inequality are closely related. The ideology scores that I computed summarize much information in two dimensions. They are too abstract to find an explanation for this puzzling relationship. To explore the mechanism linking the two different trends, understanding the two dimensions in more depth and detail could be a helpful first step to proceed.

⁹In the appendix, I present the density plot of the second dimension by party ID over time. The density plot displays similar patterns as the party median plot.

3.4 The Root of the Two Dimensions

What would be the link between identity/social issues and income distribution? To explore the possible links, I start with how the two dimensions of my ideology scores are related to egalitarianism. Most policy issues are questions about equality. Government programs and tax policies are about economic equality, and debates about abortion are often framed in terms of gender equality. Various racial and social issues are about lifting policies that discriminate against minorities. It follows then that the first dimension (economic) is about economic equality, and the second dimension (identity/social) is about social equality. Furthermore, egalitarianism (McClosky and Zaller 1984), a concept regarding people's beliefs about equality, would be explanatory of these dimensions since policy preferences are fundamentally answers to questions of equality.

Voters have different attitudes when they evaluate how equal the society is and set a standard how equal a society should be. "All men are created equal." The phrase originates in the U.S. Declaration of Independence, and many politicians have quoted it. Even though equality, especially equality of opportunity, is deeply rooted in American values, there is a wide variation in voters' attitudes toward egalitarianism. ANES has asked a battery of six questions to measure voters' egalitarianism. When analyzing egalitarianism, the questions were supposed to be summarized as a simple score. This analytical practice is based on an assumption that egalitarianism would measure the extent to which each voter is individually egalitarian. These six questions, however, are not well summarized in a unidimensional space. In fact, voters' responses to these questions show two-dimensional structure (Sears, Henry and Kosterman 2000). The first dimension of egalitarianism represents egalitarian values toward equality opportunity. It involves attitudes on equal treatment ("if people were treated more equally in this country we would have many fewer problems"), equal chance ("one of the big problems

Table 3.1: Two Dimensions of Egalitarianism and Ideology
Values are item discrimination parameters.

Survey Items	Economic	Identity/Social
Society Ensure Equal Opportunity	0.521	0.173
Big Problem No Equal Chances	0.657	0.145
Equal Treatment Few Problem	0.602	0.149
Too Far Pushing Equal Rights	-0.379	-0.866
No Problem Some Have More Chances	-0.224	-0.571
Should Worry Less Equality	-0.276	-0.847

in this country is that we don't give everyone an equal chance"), and equal opportunity ("our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed"). I label this dimension 'equal opportunity.' Another set of questions related to egalitarianism is about evaluating the current state of equality ("it is not that big of a problem if some people have more of a chance in life than others"). These questions evaluate not only perceptions about the current situation but also the society's efforts toward pursuing equal rights ("we have gone too far in pushing equal rights in this country" and "this country would be better off if we worried less about how equal people are"). These questions include stronger wordings like "too far" or "not that big of a problem" so that they can reflect resentment against equal rights effort (Sears, Henry and Kosterman 2000, 98). I call this set of questions 'push equality too far.'

I take advantage of the two-dimensional structure of the six egalitarianism questions to explore how they are related to the two dimensions of my ideology scores. I include the six egalitarianism questions in the data for ideology estimation to find out how these questions are loaded within each dimension. Table 3.1 shows that there are two dimensions of egalitarianism, which confirms what existing studies found. These two clusters of questions are separately loaded with the two dimensions of public ideology. Questions on equal opportunity are aligned with the economic dimension. This alignment

means that an economically conservative person believes less in the egalitarian ideal of opportunity. Such an alignment is also consistent with everyday usage, since people tend to perceive equal opportunity as an economic problem. According to this understanding of opportunity, it could mean an individual's ability to escape poverty, to buy a house, or to achieve economic success through hard work. The other three questions are closely related to the identity/social dimension. Especially the two questions asking about respondents' potential discomfort with equal rights have the highest values of correlation with this dimension. The correlation here shows that people who are bothered by increasing demands for equal rights are likely to be on the conservative side in the identity/social dimension.

There are two interesting points to note in regard to the correlation between 'push equality too far' items and the identity/social dimension. First, in people's minds, equality and inequality have two different economic and social facets. When they think about their ideals and policy preferences, economic and social aspects are distinct. But in everyday discourse, people tend to mix these two different things together (Kim, Pedersen and Mutz 2016). This confusion of concepts creates an opportunity for politicians to frame economic equality issues as social equality issues or the other way around. Republicans can oppose equality by reaching voters who complain about policies promoting social equality but do not mind economically liberal policies. Second, 'push equality too far' egalitarianism is associated with racial resentment. The correlation of these two attitudes were first documented by (Sears, Henry and Kosterman 2000). The same relationship is also found in this study, which will be discussed in depth in the next section. Among various social groups, racial and ethnic groups are one of the most salient identity groups. Racial discrimination has been at the core of the agenda for social equality, which implies that racial attitudes could be the deep root of ideology and egalitarianism in the identity/social arena.

3.5 Racial Resentment and Identity/Social Dimension

In this section, I investigate how racial attitudes relate to the identity/social dimension. Specifically, I focus on the racial resentment scale, a concept that measures implicit forms of contemporary racism. Racial resentment is measured as a composite of four questions asking white Americans' view on blacks. It includes the impact of slavery and discrimination on blacks escaping poverty, work ethic of African Americans, the deservingness of what black people currently have, and a comparison with other minority groups that have also suffered discrimination. The measure has been a gold standard of white American racial attitudes. ANES has consistently asked the racial resentment questions from 1988 on.

Figure 3.4 presents the relationship between racial resentment and the identity/social dimension. Both the correlation ($r = 0.60$) and the visual presentation of two variables indicates how close racial attitudes are associated with the identity/social dimension. How strong is this correlation? To put racial attitudes in context, I compare it with two major social issues questions asked in ANES: abortion and discriminations against gay and lesbian people. Using social issues for comparison is useful since the identity/social ideology consists of both racial and social issues. The correlations of the identity/social dimension with attitudes on abortion ($r = 0.34$) and with opinion on homosexual discrimination (0.31) are weaker than racial attitudes, but there is still a decent association.

To delve deeper into an understanding of the statistical relationship among these variables, I ran a multivariate regression of including the three attitudes variable against the identity/social ideology scores. To make the variables comparable, I rescaled every righthand side variable as 0 to 1. There are two important things to note from the results presented in Table 3.2. First, the racial resentment variable explains almost 40% of the

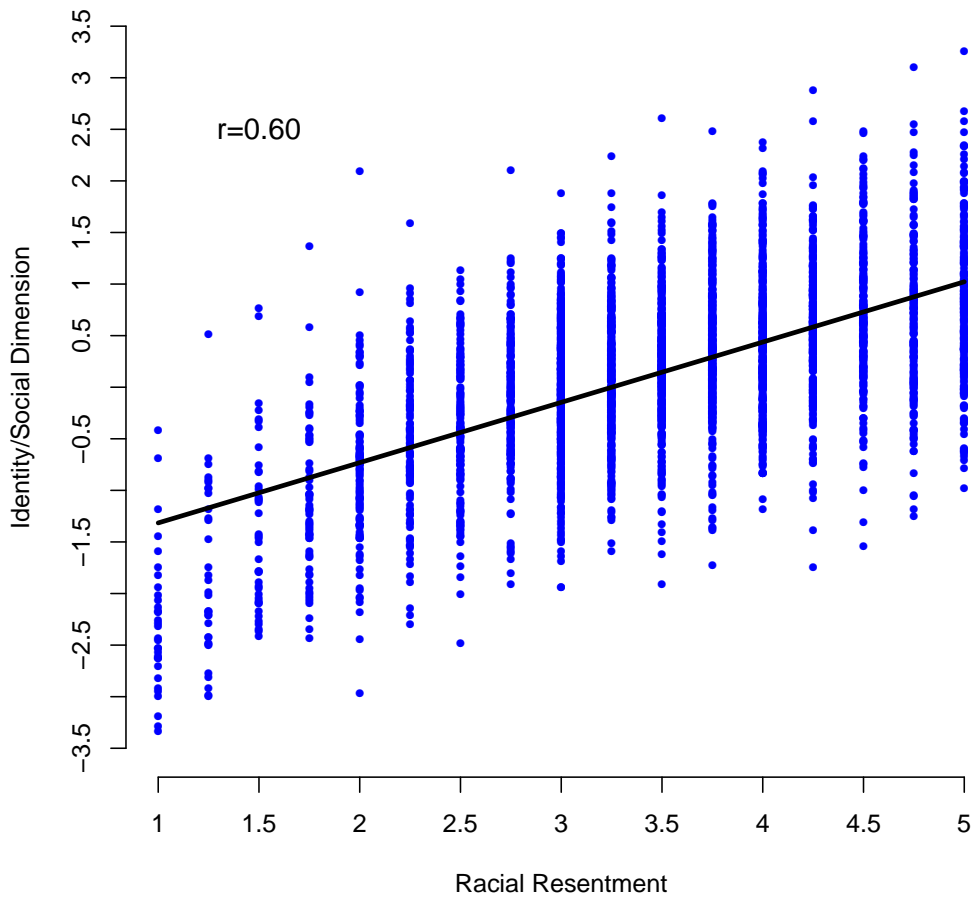


Figure 3.4: Racial Resentment and the Identity/Social Dimension

Table 3.2: Comparing the Correlation of Identity/Social Ideology with Racial Resentment, Attitudes on Abortion, and Opinion on Homosexual Discrimination
Every explanatory variable is rescaled as 0 to 1.

	<i>Dependent variable:</i>		
	Identity/Social Ideology		
	(1)	(2)	(3)
Racial Resentment	2.982*** (0.056)	2.919*** (0.056)	2.611*** (0.064)
Abortion		0.744*** (0.040)	0.554*** (0.046)
Homosexuals			0.881*** (0.039)
Constant	-1.420*** (0.028)	-1.780*** (0.034)	-1.869*** (0.039)
Observations	4,481	3,862	2,540
Adjusted R²	0.391	0.452	0.548
Residual Std. Error	0.708 (df = 4479)	0.676 (df = 3859)	0.614 (df = 2536)
F Statistic	2,881.734***	1,593.125***	1,026.171***

Note:

*p<0.1; **p<0.05; ***p<0.01

variation in the identity/social ideology score. Comparing it with the other two variables, both attitudes on abortion and opinions on homosexual discrimination explain about 8% of the dependent variable. Second, the coefficient of racial resentment is 3 to 5 times larger than that of the other two variables. When racial resentment increases from the lowest to the highest value, the identity/social ideology score increases by 2.611, which is 3.25 time larger than the standard deviation (SD) of the ideology score. These results suggest that the correlation between racial resentment and identity/social ideology score is outstanding.

When I put these variables in a time series to examine if voters' attitudes are more aligned with their partisanship, I found an increasing distance in attitudes between partisans. The distance in racial resentment between median Democrats and Republicans was 0.48 in 1986 and became as high as 0.73 in 2004. This increasing distance is closely correlated with the Gini index over time ($r = 0.80$). The partisans' attitudes on abortion also pulled apart over time. The median partisans shared a similar view on abortion in 1980 (0.04 distance). The difference has raised to 0.44 in 2012. The correlation with the Gini index ($r = 0.81$) is similar to the one with racial resentment.

To summarize the findings in this section, racial resentment shows the strongest correlation with the identity/social ideology score. The partisan difference in racial attitudes has been growing, and the speed of the growth is close to the speed of the increase in income inequality. The other two questions regarding social issues have a decent correlation with the ideology score, but it is weaker than the correlation to racial resentment. Partisans are moving apart in racial and social issues, but these findings imply that the root of polarization might be racial attitudes.

3.6 Ideological and Affective Polarization

As much as voters' issue positions have been aligned with partisanship, partisans' antipathy against the other party has dramatically grown. Studies on affective polarization have focused on the identity aspect of partisanship rather than a policy preference perspective. Affective polarization and ideological polarization have been studied separately; thus, the relationship of the two different processes is unknown. The findings that I present in the preceding sections might suggest a possible link between these two. I have shown that policy positions regarding identity groups and social issues have been widened between partisan camps. These policy positions are closely related to voters' social identities: which race they belong to, whether they are male or female, or what religion they practice. If affective polarization is about partisan identity, as other studies suggest, policy preferences regarding identity and social issues would be more closely related to affective polarization than economic policy preferences.

In this section, I investigate which dimension of ideology scores is closest to affective polarization. I run a multivariate regression to examine the correlation between affective polarization and the two dimensions of ideology scores. The dependent variable of the regression is partisan antipathy. I use party thermometer ratings, the difference between in-party thermometer and out-party thermometer to measure partisans' feelings about the other party. By using thermometer ratings to measure partisan animus, Iyengar, Sood and Lelkes (2012) found partisan hostility has grown since 1980. The two main independent variables are the extremity between the two ideology scores, which are absolute values of ideology scores. I use extremity instead of raw scores because partisan antipathy is about strength of hatred regardless of partisan identification. It does not have a partisan direction of being left and right. Since the median of both ideology scores are set to 0, I use the absolute values as a measure of extremity in each ideology. Other

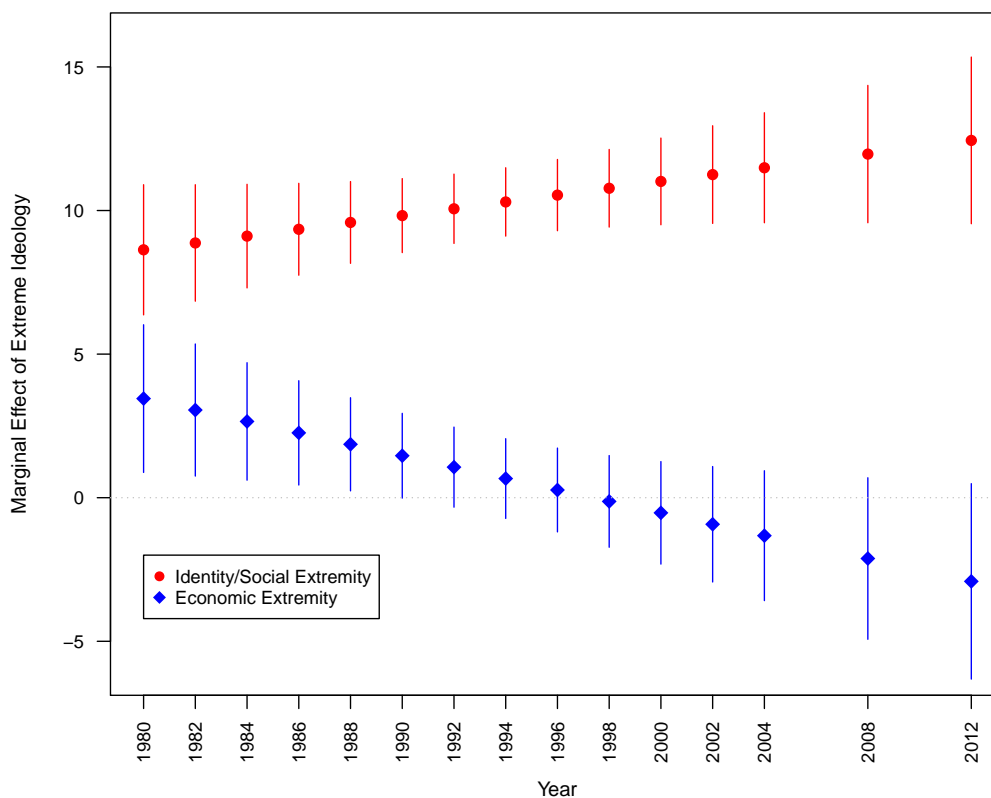


Figure 3.5: Marginal Effect of Extremity in Economic and Extremity in Identity/Social on Affective Polarization by Year

important variables in the regression are time and its interaction with the two independent variables. Since partisan antipathy has grown over time, it must be included in the model. The correlation of the two key independent variables with the dependent variable might have changed as time has passed. I rescaled the time variable from 0 to 1 for a better interpretable result. In addition to these variables, I include a set of control variables: income, education, age, gender, and race.

The main results of the regression analysis are presented in Figure 3.5.¹⁰ The degree of correlation between partisan antipathy and the identity/social dimension is

¹⁰The full regression table is reported in Appendix Table 3.3.

higher and has been growing over time. A one-unit increase in identity/social ideology score is associated with an 8.6 increase of partisan antipathy in 1980 and the marginal effect becomes 12.4, a 0.42 SD of partisan antipathy in 2012. In contrast, the marginal effect of economic extremity was 3.5 in 1980, and the marginal effect becomes statistically indistinguishable from 0 after 1990.

Ideology and affect are not disconnected. We did not know the connection between the two because we limited our understanding of ideology to a unidimensional space. The results here suggest that people who hold more extreme policy positions in identity/social issues are likely to loathe the other party. As questions related to ‘push equality too far’ egalitarianism reflect voters’ resentment toward efforts for social equality, voters have resentment against the other party if they strongly support or oppose policies on social equality. Voters might be less sensitive about issues regarding the size of the government or tax issues. The issues about groups and discrimination are more moralized and hard to find a middle ground. Liberals would think they hold a high moral ground because they are fighting against immoral racism, while social conservatives would believe supporting undeserving individuals and pursuing policies that might hurt family values are immoral. As these issues become increasingly moralized, there is less ground for compromise (Ryan 2017).

3.7 Crosscutting Income and Education

How do demographic factors explain the variation in each dimension of ideology? In this section, I explore how income and education are related to the two dimensions.¹¹ I ran a multivariate regression to analyze how an individual’s income and education level relate with ideology scores. To compare two independent variables, income and

¹¹In the Appendix Table 3.4, I present a regression result that includes more demographic variables.

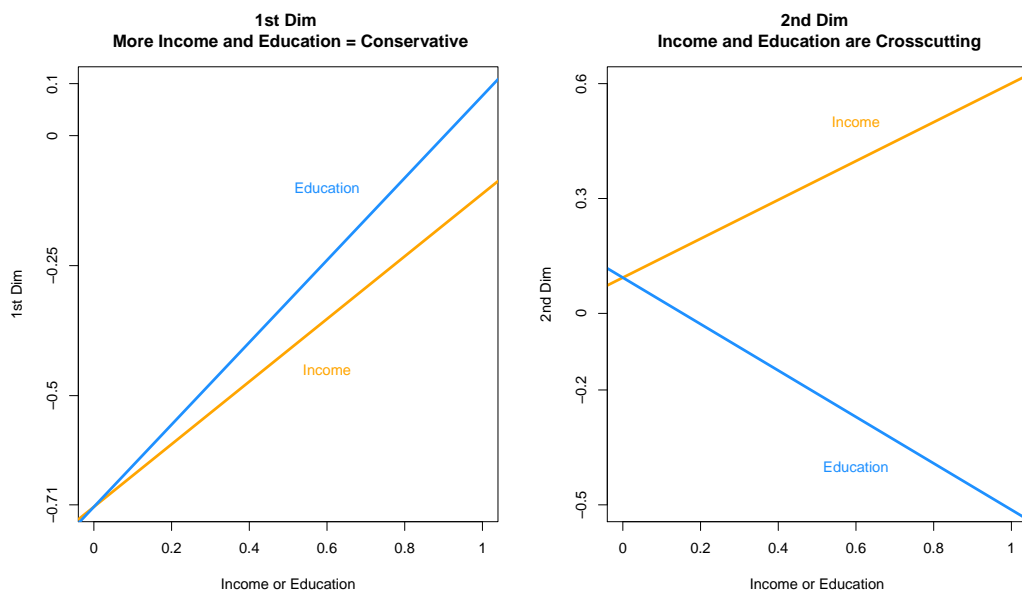


Figure 3.6: Income and Education Relationship with Economic and Identity/Social Dimensions

education, I rescaled them to an interval of 0 to 1. The dependent variable of each regression is respectively the first dimension and the second dimension of ideology scores.

Figure 3.6 shows that income and education have totally different relationships with each ideology score. For the first dimension, the ideology score becomes more conservative with higher income and education. This is the model that MPR had in mind to explain that income polarization brings partisan polarization. On the contrary, income and education have a crosscutting relationship with the second dimension; income and education are cancelling out each other. The regression model indicates that the second dimension will move 0.1 in a liberal direction when the person has the highest education and income.

GOP politicians might find this crosscutting relationship particularly useful in an unequal economy. When only a few are well-off and there is an increasing number of people who have lower than average income, Republicans would have hard time

convincing voters if policy debates were focused on the first dimension. All those new poor voters would be liberal in the first dimensional world. But the second dimension can rescue Republicans. It enables them to represent both high-income people and low-education people. Since Republicans are under more and more pressure by the increasing demands for redistribution, they would want to raise issues that belong to the second dimension.

3.8 Conclusion

In this chapter, I explored the nature of ideological polarization and its relationship with income inequality. The main contribution of the chapter is presenting ideology in the identity/social dimension is polarized party lines, and the degree of polarization is closely correlated with the Gini index. This chapter the first study to translate well-established notions about the polarization of elites into an investigation of polarization within the larger public sphere. The findings regarding identity/social dimension contradict MPR's argument on voters' political preference and shed a new light on a possible mechanism linking inequality and polarization.

To explore the link between inequality and polarization, I present evidence showing that the polarizing dimension – the identity/social dimension – is closely related with racial attitudes. The difference in partisans' racial attitudes is growing along with rising income differences. These findings confirm the hypotheses I raised in Chapter 2. Furthermore, I found that the identity/social dimension is closely related with voters' resentment against the pursuance of social equality. The existence of this resentment implies that ideology is not merely an aggregation of policy preferences, but also a source of partisan hatred.

The findings in this chapter painted a big picture of the political and economic

transformation of the past 40 years. There is much suggestive evidence in this chapter that points to an answer to why income inequality might cause partisan polarization. However, the findings here are just correlational and agnostic about causality. Drawing intuition from the findings in this chapter and Chapter 2, the theory chapter, I will present evidence in the next chapter that economic inequality causes changes in racial attitudes.

3.9 Appendix

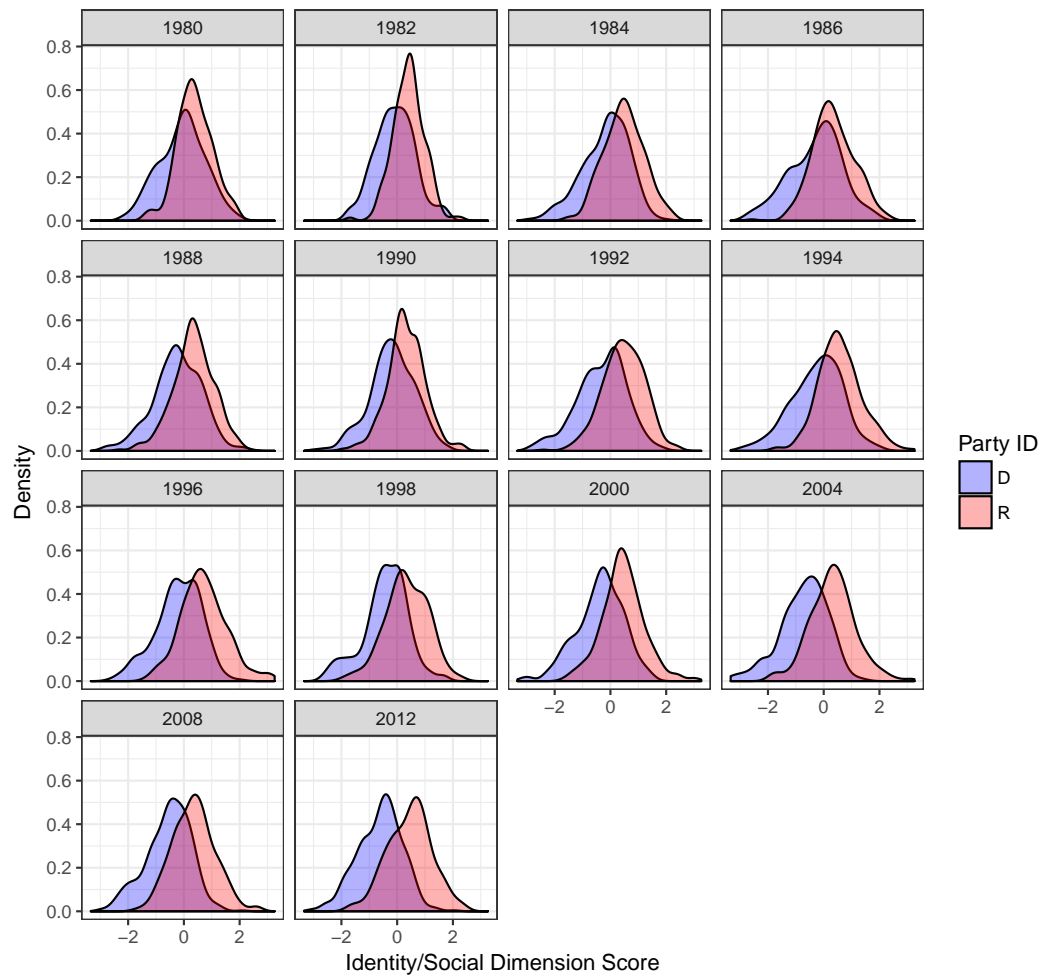


Figure 3.7: Identity/Social Dimension Score by Party and Year (1980-2012)

In Figure 3.8, the x axis is the first dimension (economic) and the y axis is the second dimension (identity/social).

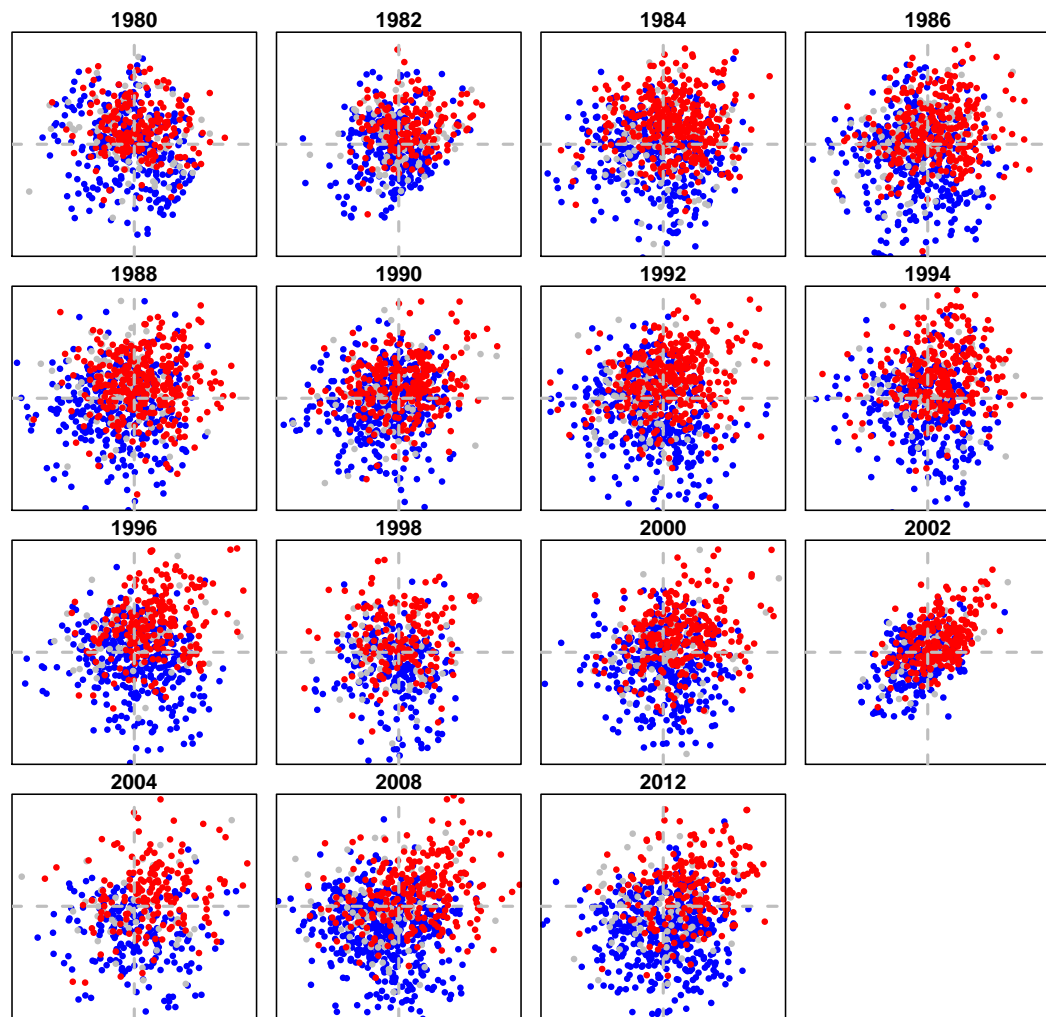


Figure 3.8: Locating Voters in Two Dimensional Space by Year (1980-2012)

Table 3.3: Regression Result: Partisan Antipathy and Two Dimensions of Ideology

	<i>Dependent variable:</i>	
	Partisan Antipathy	
	(1)	(2)
Identity/Social Ideology Extremity	10.390*** (0.607)	8.633*** (1.156)
Identity/Social × Time		3.809 (2.335)
Economic Ideology Extremity	1.020 (0.706)	3.451*** (1.312)
Economic × Time		−6.364** (2.693)
Time		9.262*** (2.704)
Income	0.118 (0.331)	0.235 (0.331)
edu	0.148 (0.417)	−0.264 (0.422)
age	0.107*** (0.020)	0.095*** (0.020)
Female	2.003*** (0.684)	1.996*** (0.682)
Black	12.356*** (3.107)	12.520*** (3.098)
Hispanic	7.118** (3.216)	6.579** (3.208)
Native American	2.412 (3.608)	2.902 (3.598)
Other	−2.776 (27.713)	−0.040 (27.717)
White	5.000* (2.968)	5.856** (2.963)
Constant	8.786** (3.483)	6.106* (3.625)
Observations	6,674	6,674
R ²	0.060	0.066
Adjusted R ²	0.059	0.064
Residual Std. Error	27.528 (df = 6662)	27.449 (df = 6659)
F Statistic	38.864***	33.671***

Note:

*p<0.1; **p<0.05; ***p<0.01

Table 3.4: Demographics and the Two Ideology Scores

	<i>Dependent variable:</i>	
	Economic	Identity/Social
	(1)	(2)
Income	0.455*** (0.030)	0.291*** (0.036)
Education	0.727*** (0.029)	-0.586*** (0.033)
Age	0.00003 (0.0005)	0.007*** (0.001)
Female	-0.109*** (0.016)	-0.113*** (0.018)
Black	-0.363*** (0.070)	-0.647*** (0.082)
Hispanic	-0.165** (0.073)	-0.215** (0.085)
Native American	0.0003 (0.081)	0.101 (0.094)
Other	2.067*** (0.689)	0.109 (0.805)
White	0.150** (0.067)	0.121 (0.078)
Constant	-0.618*** (0.074)	-0.054 (0.086)
Observations	7,782	7,782
R ²	0.242	0.161
Adjusted R ²	0.242	0.160
Residual Std. Error (df = 7772)	0.686	0.801
F Statistic (df = 9; 7772)	276.381***	166.211***
<i>Note:</i>	*p<0.1; **p<0.05; ***p<0.01	

Chapter 4

Economic Vulnerability and Racial Attitudes

In the previous chapter, I demonstrated that income inequality and partisan polarization in identity/social issues share a common trajectory. These seemingly unrelated trends are connected by racial attitudes, as the evidence suggested. The findings well represent a broad picture of the past 40 years of American politics. However, the data and the research design that I used initially prevented me from identifying the causal mechanism from which to examine the effects of economic situations on racial attitudes. To address this deficiency, I developed survey experiments intended to ascertain the effects of economic vulnerability and stability on various political attitudes. This chapter presents the results.

4.1 Culture versus Economy

After Donald Trump won the 2016 elections, academics and pundits started debating on explanations for his victory. The majority of experts argued that racism

motivated people to vote for Trump (Carnes and Lupu 2017; Collingwood, Reny and Valenzuela 2017; Lopez 2017; Kalkan 2016; Schaffner, MacWilliams and Nteta 2016; Wood 2017), whereas a minority contended that economic anxiety was the root of Trump's success (Casselmann 2017; Kolko 2016). Both camps presented different types of data, including survey data, data on aggregate county vote shares, and economic data, to prove their points. Conflicting evidence has been accumulated, and no middle ground has been reached. Even though evidence and papers that favor the racism argument continues to increase, certain questions have yet to be illuminated. Why has racism suddenly become a decisive factor in recent elections? Have there been any contextual factors that have rendered racism more salient in the contemporary political landscape?

The debate regarding the role of economy in racism is a long-standing dispute. Scholars have always differed in their perspectives on the importance of culture and economics since Marx and Weber. When symbolic racism (Kinder and Sears 1981) was introduced in political science and psychology in the 1980s, scholars debated over the role of self-interest in racism. Advocates of the symbolic racism stream of research argued that racism is a symbolic attitude that is minimally connected to self-interest (Sears, Hensler and Speer 1979; Sears et al. 1980). Racism is a predisposition that is developed in the process of pre-adult socialization. Bobo (Bobo 1983, 1988; Bobo and Kluegel 1993) disagreed with the idea that racism is free from economic considerations. He asserted that racial attitudes are based on group interest, which directly and indirectly affects personal well-being. Conflicts on racial issues are realistic group conflicts rather than a conflict between contrasting symbolic attitudes. The debate was revived in the 2000s, with scholars turning their attention to the role of economic anxiety in immigration attitudes. They put forward contrasting viewpoints on whether opposition to immigration comes from cultural concerns or economic threats, thereby once again dividing scholarship on immigration between the culture (Brader, Valentino and Suhay 2008; Citrin et al. 1997;

Hainmueller and Hiscox 2010; Hopkins 2014) and the economic camps (Hanson 2005; Malhotra, Margalit and Mo 2013; Scheve and Slaughter 2001).

Most of the aforementioned studies treated culture and the economy as separate and conflicting factors. Surprisingly, few studies have inquired into how these two factors interact with each other.¹ People do not form their symbolic attitudes and social identities in a vacuum. History has shown that racism and anti-immigration sentiment rise during economic downturns (Higham 1985; Olzak 1994). My theory about economic vulnerability in relation to political attitudes and the findings presented in the previous chapter suggested a link between personal economic situations and racial attitudes. To fill the gap in the literature, I designed survey experiments, whose results indicated that economic anxiety and stability drive racial attitudes.

4.2 Experiment Design

The experiments were designed to verify the effects of economic anxiety and stability on political attitudes, especially racial attitudes. I ran two experiments with different treatments and for which I recruited 202 (Experiment 1) and 404 (Experiment 2) adults.² The participants were sampled from Amazon Mechanical Turk, and only individuals who reside in the United States were invited to participate. They were then informed that they were to complete opinion surveys on various political and social groups.

Experiment 1 was intended to test the effects of economic anxiety. The recruited subjects were randomly assigned to two groups, namely, the economic vulnerability

¹The realistic group conflict theory (Bobo 1983, 1988; Bobo and Kluegel 1993) and Weeden and Kurzban (2014, 2017) are the only exceptions.

²There were more control group participants than treatment group participants in both the experiments, but no problem was encountered in the randomization process. Thus, I conjectured that the difference in participant number may have stemmed from uneven dropout rates in the control and treatment groups.

treatment group and the control group. For Experiment 2, focus was shifted to economic stability and neighborhood effects. The participants were divided into four groups, namely, the economic stability treatment group, the rich neighborhood (RN) treatment group, the poor neighborhood (PN) treatment group, and the control group. After the treatment phases in both experiments, the respondents were asked to answer questions designed to measure racial resentment and ethnocentrism, identify policy issues, and acquire thermometer scales and demographic information.

The economic anxiety treatment group in Experiment 1 and the economic stability treatment group in Experiment 2 were presented with scenarios to induce the participants to think about financial situations. The scenarios were first designed and used by Mani et al. (2013), who motivated respondents to ponder over everyday financial burdens by asking them to read four scenarios that people can encounter during times of financial difficulty. This treatment has become a gold standard for validating the effects of poverty, and the four scenarios have exerted significant effects on different outcomes. Induced economic anxiety diminishes cognitive ability (Mani et al. 2013) and framing effects (Shah, Shafir and Mullainathan 2015) but increases political participation (Denny 2016). In the current study, I used one of the scenarios in Experiment 1 and two of the scenarios, with modifications, in Experiment 2. The revised scenarios were designed to enable the participants to envision a situation wherein they possess sufficient economic resources. I retained most of the wording from the original scenarios and changed only the words that were relevant to my adaptation.

I designed the two neighborhood effect treatments in Experiment 2 in a way that enabled me to examine the effects of priming on neighborhood conditions. I prompted the participants to think of a situation in which they move to a hypothetical neighborhood. To present information on neighborhood quality to the participants, I showed them various neighborhood data, including income growth over the past five years, high school dropout

rate, life expectancy, rate of death by opioid overdose, proportion of children with single mothers, and percentage of high school graduates attending college. The PN treatment groups were presented with quantities that reflected the lowest 10th to 20th percentiles in the nation for each criterion. The participants in the RN treatment group were provided figures that were the national highest in the 10th to 20th percentile for each criterion. After presenting the neighborhood information, I asked the participants to contemplate on how the neighborhood would change their lifestyles and quality of life. This process is the same procedure used by Mani et al. (2013) in their experiment. The full text of all the four treatments are provided in the Appendix.

4.3 Outcome Variables

Two outcome variables were employed in this study: racial resentment and ethnocentrism. The racial resentment variable is used to measure subtle forms of white racism in America. The creators of this measure described racial resentment as a predisposition that cannot easily change.

The ethnocentrism variable is a measure that gauges the strength of ingroup favoritism and outgroup bias (Kinder and Kam 2010). Two measures of ethnocentrism were proposed by Kinder and Kam (2010): a measure that uses racial stereotypes and a measure based on feeling thermometer scores. The measure based on racial stereotypes is used to calculate the difference between ingroup stereotype scores and the average outgroup stereotype scores. The measure based on feeling thermometer scores measures the difference between ingroup thermometer scores and the average outgroup thermometer scores. I used two stereotype scores – lazy versus hardworking and intelligent versus unintelligent – taken from questions in the American National Election Studies.

4.4 Experiment 1: The Effects of Economic Vulnerability on Racial Attitudes

The participants who read the scenarios that induce financial anxiety generated high racial resentment scores and ethnocentrism scores. Figure 4.1 summarizes the findings. The treatment group's racial resentment score was 0.29 points higher than that of the control group. The difference-in-means test yielded a p-value of 0.06. The comparison of the two histograms in the figure indicated that the treatment group's modal category was 3.5–4.0 and that the control group's modal category was 1.5–2.0. The difference is more striking when the upper tails of the distribution are compared. A quarter of the treatment group (25.9%) registered a racial resentment score of 4 or higher. A score of 4 means that a respondent chose the second highest resentment response for every question on average. For the control group, only 13.7% obtained this level of scoring.

A similar tendency was reflected in the results on ethnocentrism scores, which are summarized in Figure 4.2. The difference in means between two groups was 0.28, which yielded a p-value of 0.06. How many participants exhibited bias against members of an outgroup and favored their ingroups? In the treatment group, 51% of the respondents harbored stronger stereotypical beliefs regarding outgroups than ingroups. In the control group, 36% of the participants more strongly favored ingroups. The results suggested that everyday financial stress increases symbolic racism and strengthens ingroup favoritism/outgroup derogation.

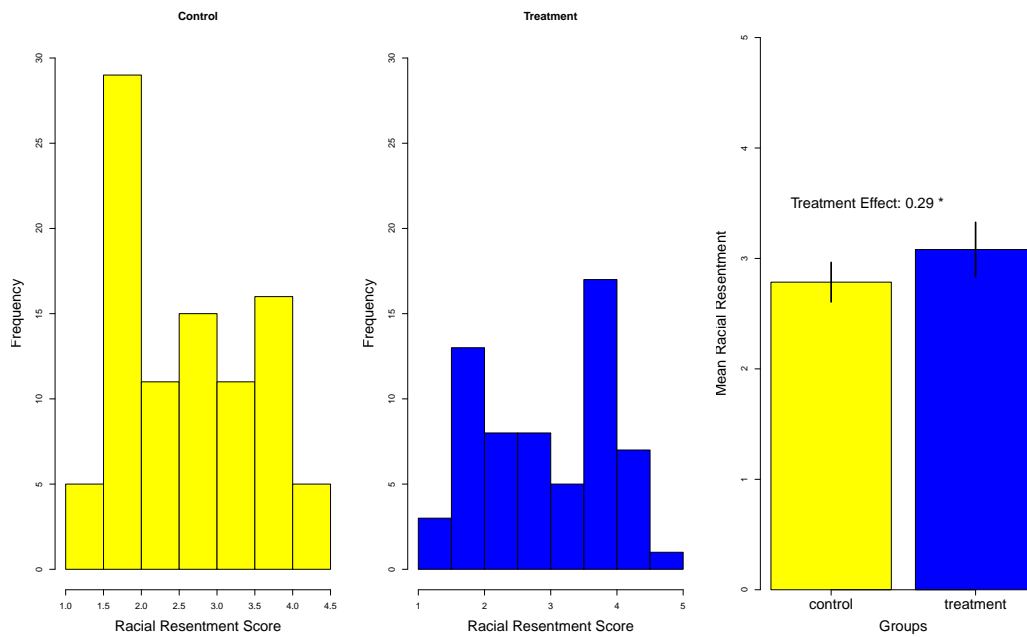


Figure 4.1: Histograms of the Racial Resentment Scores of the Control and Treatment Groups (Left), Mean Values by Treatment Status (Right)

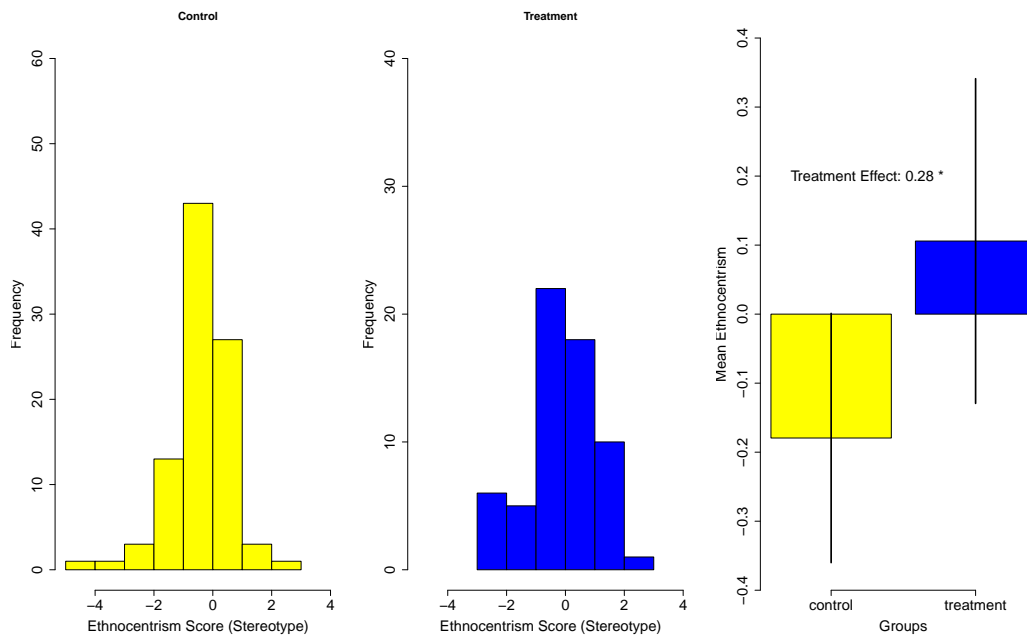


Figure 4.2: Histograms of the Ethnocentrism Scores of the Control and Treatment Groups (Left), Mean Values by Treatment Status (Right)

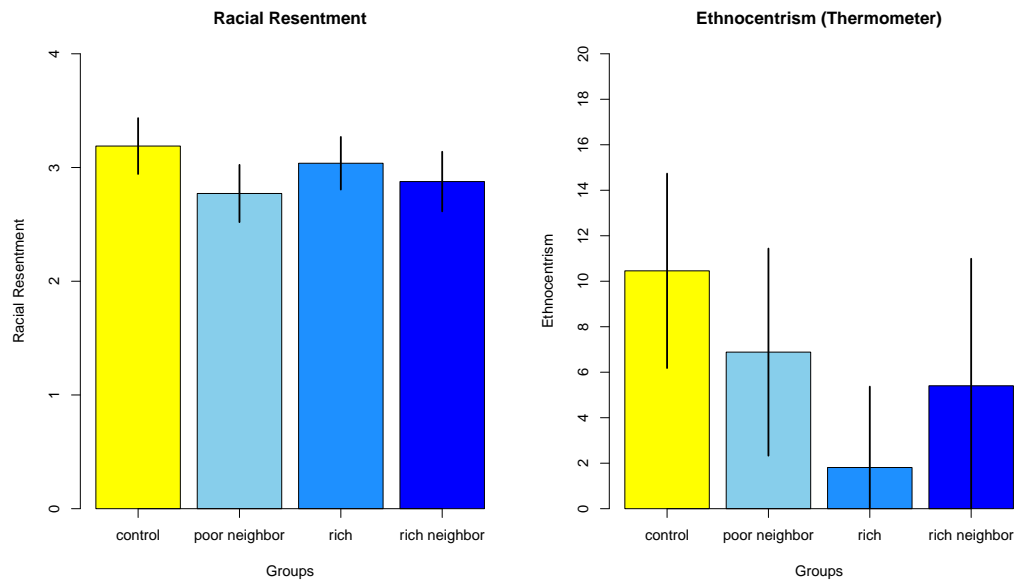


Figure 4.3: Mean Values of Racial Resentment by Treatment Status (Left) Mean Values of Ethnocentrism by Treatment Status (Right)

4.5 Experiment 2: The Effects of Economic Stability and Neighborhood Conditions

The effects of economic stability treatment was more mixed than the effects identified in Experiment 1. However, the treatment group registered lower ethnocentrism than did the control group. Table 4.1 and Figure 4.3 summarize the results of Experiment 2. The respondents who read the scenarios on the sufficiency of economic resources exhibited an ethnocentrism score that was 8.25 (0.39 standard deviation) times lower than that of the control group. About half (51.8%) of the white control group respondents expressed more favorable feelings toward white people than did outgroups (ethnocentrism score higher than 0). By contrast, less than one-third (30.2%) of the white economic stability treatment group showed ingroup favoritism/outgroup derogation. Nevertheless, economic stability exerted no statistically significant effects on racial resentment.

The effects of neighborhood priming were consistent in the RN treatment group

but mixed in the PN treatment group. The respondents belonging to the RN treatment group registered lower racial resentment and ethnocentrism scores than did the participants classified under the PR treatment group. Compared with the control group, the RN treatment group exhibited racial resentment levels that were 0.316 ($p = 0.01$) lower. Only about a quarter (26.5%) of the RN treatment respondents registered a racial resentment score of 4 or higher – a proportion that is 12% lower than that of the control group (38.8%). With respect to ethnocentrism scores, 33.7% of the RN treatment subjects scored higher than 0 – a percentage similar to that of the economic stability treatment group (30.2%) but lower than that of the control group (51.8%). The results of the PN treatment were both mixed and oriented toward the wrong direction. On average, the PR treatment respondents exhibited a significantly lower racial resentment (0.32) than did the control group, but the groups had no statistically significant difference in terms of ethnocentrism. The PN treatment was expected to increase racially biased attitudes and feelings, but the results reflected the opposite.

4.6 Discussion

The results in this chapter showed that economic anxiety and stability cause a shift in racial attitudes, stereotypes, and feelings. The subjects, who were asked to think about everyday financial vulnerabilities, displayed biased attitudes with respect to racial resentment and biased stereotypes in relation to ethnocentrism. On the contrary, priming financial affluence drove the respondents to reduce negative feelings against outgroups. The findings implied that a difference in economic experience can pull apart voters' racial attitudes.

The findings are even more surprising because no treatment effects on other outcomes were found. In the surveys, I incorporated questions on feeling thermometers

Table 4.1: OLS Regression for Experiment 2

	<i>Dependent variable:</i>	
	Racial Resentment	Ethnocentrism
	(1)	(2)
Economic Stability Treatment	−0.090 (0.135)	−8.251** (2.878)
Poor Neighborhood Treatment	−0.316* (0.143)	−3.045 (3.081)
Rich Neighborhood Treatment	−0.357* (0.142)	−5.647+ (2.971)
Party ID (7pt)	0.332** (0.024)	3.144** (0.494)
Rich	0.026 (0.104)	1.642 (2.247)
No College Edu	0.316** (0.105)	3.796+ (2.249)
Constant	1.796** (0.145)	−3.805 (3.041)
Observations	362	304
R ²	0.395	0.161
Adjusted R ²	0.384	0.144
Residual Std. Error	0.947 (df = 355)	18.657 (df = 297)
F Statistic	38.553*** (df = 6; 355)	9.524*** (df = 6; 297)

Note:

+p<0.1; *p<0.05; **p<0.01

aside from racial groups (political parties, politicians, etc.), perceptions on inequality, egalitarianism, and opinions on free trade, among others. None of these questions stimulated a significant treatment effect. Observing a difference in the results related to questions on economic issues, such as inequality or egalitarianism, would be intuitive. However, only racial attitudes shifted.

This chapter's results speak to the debate on racism versus economy. Researchers who chose one side in the culture and economy argument failed to realize that economy shapes the context that underlies the manner by which cultural values and attitudes evolve. Racism could have been the strongest driver of Trump voting. However, this does not rule out the possibility that economic anxiety caused voters to espouse more racism and render racism more salient during the elections. Symbolic racism is not unconnected to day-to-day personal economic experience. Racism can be strengthened or weakened by economic experience that is not easily captured by an income variable. The findings motivate the pursuit of more studies on understanding how economy and racial attitudes are intertwined.

The experiments in this chapter improved the internal validity of the study. The issue is whether the findings are externally valid. Even though financial anxiety treatments are used widely in multiple disciplines and cross-checked with studies of high external validity, whether real-world financial experience affects racial attitudes is unclear. To overcome the problem of external validity, I conducted a study in which treatments based on real-world financial difficulties and survey data from a nationally representative sample were used.

4.7 Appendix

4.7.1 Treatments

Economic Vulnerability Treatment

1. Imagine that your car is having some trouble, and requires a \$1,500 service. Unfortunately, your auto insurance will cover only 10% of this cost.

You now need to decide the following:

- (1) Pay the full amount in cash. Would this require liquidating savings? How would you go about it?
- (2) Take out a loan, which you can pay back in monthly installments. A typical such loan may require monthly payments of roughly \$150 a month for 12 months, which would amount to about \$1800 total.
- (3) Take a chance, forego the service, and hope that the car lasts for a while longer. Of course, this leaves open the possibility of breakdown, or even greater expenses in the long run.

How would you go about making this decision? Would it be an easy or a difficult decision for you to make?

2. Write four sentences about your reaction to this unexpected cost. How would you feel?

Economic Stability Treatment

1. The economy keeps improving; suppose your employer's business is thriving. Imagine a scenario in which you received a 15% raise in your salary. What change would you give to your lifestyles? Would it impact your leisure, housing, or travel plans? How do you want to spend your additional income?
2. Write four sentences about your reaction to this unexpected raise. How would you feel?
3. Suppose you won a \$1,000 lottery. The lottery you one offers two alternative payment options:
 - (1) You can get the full amount in cash, \$1,000.
 - (2) You can receive it in 12 monthly payments, of \$100 (each, which would amounttotal of \$1200).

Which payment option would you opt for? What would you do with the extra cash? Would the additional payment for monthly payments be worth paying in this case?

4. Write two sentences about your reaction to this lottery win. How would you feel? What option do you prefer?

Rich Neighborhood Treatment

- Imagine that you have to move to a new neighborhood. The neighborhood is going through difficult times because businesses are leaving the town. Here are some numbers to describe the quality of life in this neighborhood:
 - Income growth over the past 5 years: -4%(4 percent point lower than national average)
 - High school dropout rate: 26%(8 percentpoint higher than national average)
 - Life expectancy: 70.2 years(8.9 years shorter than national average)
 - Death byopioidoverdose: 25 per 100,000(15 per 100,000 higher than national average)
 - Fraction of children with single mothers: 31.8%(11 percent point higher than national average)
 - Fraction ofhigh schoolgraduates going to college: 40.9%(25 percent point lower than national average)

Given your situation, would you be able to maintain roughly your same lifestyle in this new neighborhood? If not, what changes would you need to make? Would it impact your leisure, housing, education, or travel plans?

- Write four sentences about your reaction to moving to this new neighborhood. How would you feel?

Poor Neighborhood Treatment

- Imagine that you have to move to a new neighborhood. The neighborhood has a booming economy because more businesses are opening in the town. Here are some numbers to describe the quality of life in this neighborhood:
 - Income growth over the past 5 years: 4%(4 percent point HIGHER than national average)
 - High school dropout rate: 10%(8 percentpoint LOWER than national average)
 - Life expectancy: 84 years(5 years LONGER than national average)
 - Death byopioidoverdose: 1 per 100,000(9 per 100,000 LOWER than national average)
 - Fraction of children with single mothers: 10.1%(10 percent point LOWER than national average)

- Fraction of high school graduates going to college: 90.9%(25 percent point HIGHER than national average)

Given your situation, what change would you give to your lifestyles? Would it impact your leisure, housing, education, or travel plans?

2. Write four sentences about your reaction to moving to this new neighborhood. How would you feel?

4.7.2 Survey Questions

1. What is your gender?
 - Male
 - Female
2. In what year were you born?
3. How would you describe your ethnicity/race?
 - White (1)
 - Black (2)
 - Hispanic (3)
 - Asian (4)
 - Native Hawaiian or Pacific Islander (5)
 - American Indian or Alaska Native (6)
 - Mixed (7)
 - Other (8)
4. A score of '1' means that you think almost all of the people in that group tend to be "hard-working." A score of '7' means that you think most people in the group are "lazy." A score of '4' means that you think that most people in the group are not closer to one end or the other, and of course, you may choose any number in between. Where would you rate WHITES in general on this scale?
 - 1 Hard-working (1)
 - 2 (2)
 - 3 (3)
 - 4 (4)
 - 5 (5)
 - 6 (6)

- 7 Lazy (7)

5. Where would you rate BLACKS in on this scale?

- 1 Hard-working (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Lazy (7)

6. Where would you rate HISPANIC-AMERICANS on this scale?

- 1 Hard-working (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Lazy (7)

7. Where would you rate ASIAN-AMERICANS on this scale?

- 1 Hard-working (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Lazy (7)

8. The next set asks if people in each group tend to be “intelligent” or “unintelligent.”

9. Where would you rate WHITES in general on this scale?

- 1 Intelligent (1)
- 2 (2)
- 3 (3)

- 4 (4)
- 5 (5)
- 6 (6)
- 7 Unintelligent (7)

10. Where would you rate BLACKS in general on this scale?

- 1 Intelligent (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Unintelligent (7)

11. Where would you rate HISPANIC-AMERICANS in general on this scale?

- 1 Intelligent (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Unintelligent (7)

12. Where would you rate ASIAN-AMERICANS in general on this scale?

- 1 Intelligent (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 Unintelligent (7)

13. I will present you a statement. Please choose if you AGREE STRONGLY, AGREE SOMEWHAT, NEITHER AGREE NOR DISAGREE, DISAGREE SOMEWHAT, or DISAGREE STRONGLY with the statement.

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

14. Irish, Italians, Jewish and many other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors. Do you AGREE STRONGLY, AGREE SOMEWHAT, NEITHER AGREE NOR DISAGREE, DISAGREE SOMEWHAT, or DISAGREE STRONGLY with this statement?

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

15. Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way out of the lower class. Do you AGREE STRONGLY, AGREE SOMEWHAT, NEITHER AGREE NOR DISAGREE, DISAGREE SOMEWHAT, or DISAGREE STRONGLY with this statement?

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

16. Over the past few years, blacks have gotten less than they deserve. Do you AGREE STRONGLY, AGREE SOMEWHAT, NEITHER AGREE NOR DISAGREE, DISAGREE SOMEWHAT, or DISAGREE STRONGLY with this statement?

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

17. It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites. Do you **AGREE STRONGLY**, **AGREE SOMEWHAT**, **NEITHER AGREE NOR DISAGREE**, **DISAGREE SOMEWHAT**, or **DISAGREE STRONGLY** with this statement?

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

18. I'd like to get your feelings toward some of our political leaders and other people who are in the news these days. I'll read the name of a person and I'd like you to rate that person using something we call the feeling thermometer. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the person and that you don't care too much for that person. You would rate the person at the 50 degree mark if you don't feel particularly warm or cold toward the person.

- Republicans (1)
- Democrats (2)
- Independents (3)
- Republican Party (4)
- Democratic Party (5)
- Donald Trump (6)
- Hillary Clinton (7)
- Barack Obama (8)
- Middle class people (9)
- Labor unions (10)
- Poor people (11)
- People on welfare (12)
- Working class people (13)
- Rich people (14)
- White people (15)
- Black people (16)
- Hispanic people (17)

- Asian American people (18)
- Urban people (19)
- Rural people (20)
- Big business (21)
- Illegal immigrants (22)
- Muslim (23)
- Black Lives Matter (24)
- Police (25)

19. I am going to read several more statements. After each one, I would like you to tell me how strongly you agree or disagree.

20. Our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed.

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

21. We have gone too far in pushing equal rights in this country.

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

22. One of the big problems in this country is that we don't give everyone an equal chance.

- Agree strongly (1)
- Agree somewhat (2)
- Neither agree nor disagree (3)
- Disagree somewhat (4)
- Disagree strongly (5)

23. This country would be better off if we worried less about how equal people are.

- Agree strongly (1)
 - Agree somewhat (2)
 - Neither agree nor disagree (3)
 - Disagree somewhat (4)
 - Disagree strongly (5)
24. It is not really that big a problem if some people have more of a chance in life than others.
- Agree strongly (1)
 - Agree somewhat (2)
 - Neither agree nor disagree (3)
 - Disagree somewhat (4)
 - Disagree strongly (5)
25. If people were treated more equally in this country we would have many fewer problems.
- Agree strongly (1)
 - Agree somewhat (2)
 - Neither agree nor disagree (3)
 - Disagree somewhat (4)
 - Disagree strongly (5)
26. Do you think the difference in incomes between rich people and poor people in the United States today is LARGER, SMALLER, or ABOUT THE SAME as it was 20 years ago?
- Much larger (1)
 - Somewhat larger (2)
 - About the same (3)
 - Somewhat smaller (4)
 - Much smaller (5)
27. 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 or OPPOSE placing new limits on imports, or haven't you thought much about this?
- Strongly favor (1)

- Somewhat favor (2)
 - Neither favor or oppose (3)
 - Somewhat oppose (4)
 - Strongly oppose (5)
28. Generally speaking, do you usually think of yourself as a DEMOCRAT, a REPUBLICAN, an INDEPENDENT, or what?
- Democrat (1)
 - Republican (2)
 - Independent (3)
 - Other party (4)
 - No preference (5)
29. Would you call yourself a STRONG Democrat or a NOT VERY STRONG Democrat?
- Strong
 - Not very strong
30. Would you call yourself a STRONG Republican or a NOT VERY STRONG Republican?
- Strong
 - Not very strong
31. Do you think of yourself as CLOSER to the Republican Party or to the Democratic party?
- Closer to Republican (1)
 - Neither (2)
 - Closer to Democrat (3)
32. Imagine you have a Democratic Senator in your state. That Senator wants to cooperate with Republican Party to repeal and replace Obamacare. Do you want to vote for him or her for reelection?
- Yes, I will still vote for the Senator without doubt. (1)
 - Yes, I will still vote for the Senator with doubt. (2)
 - I am not sure (3)
 - No, I will not vote for the Senator with doubt (4)

- No, I will not vote for the Senator without doubt. (5)
33. Imagine you have a Republican Senator in your state. That Senator wants to cooperate with Democratic Party to oppose repealing and replacing Obamacare. Do you want to vote for him or her for reelection?
- Yes, I will still vote for the Senator without doubt. (1)
 - Yes, I will still vote for the Senator with doubt. (2)
 - I am not sure (3)
 - No, I will not vote for the Senator with doubt (4)
 - No, I will not vote for the Senator without doubt. (5)
34. Choose the income group that includes the income of all members of your family living here in 2016 before taxes. This figure should include salaries, wages, pensions, dividends, interest, and all other income.
- None or less than \$2,999 (1)
 - \$3,000 -\$4,999 (2)
 - \$5,000 -\$7,499 (3)
 - \$7,500 -\$9,999 (4)
 - \$10,000 -\$10,999 (5)
 - \$11,000-\$12,499 (6)
 - \$12,500-\$14,999 (7)
 - \$15,000-\$16,999 (8)
 - 17,000-\$19,999 (9)
 - \$20,000-\$21,999 (10)
 - \$22,000-\$24,999 (11)
 - \$25,000-\$29,999 (12)
 - \$30,000-\$34,999 (13)
 - \$35,000-\$39,999 (14)
 - \$40,000-\$44,999 (15)
 - \$45,000-\$49,999 (16)
 - \$50,000-\$59,999 (17)
 - \$60,000-\$69,999 (18)
 - \$70,000-\$79,999 (19)
 - \$80,000-\$89,999 (20)

- \$90,000-\$99,999 (21)
- \$100,000-\$119,999 (22)
- \$120,000-\$149,999 (23)
- \$150,000-\$199,999 (24)
- \$200,000-\$299,999 (25)
- \$300,000-\$399,999 (26)
- \$400,000-\$499,999 (27)
- \$500,000 or more (28)

35. If you had to make a choice, would you call yourself MIDDLE CLASS or WORKING CLASS?

- Upper class (1)
- Middle class (2)
- Working class (3)
- Lower class (4)
- Other (Specify) (5)

36. Would you say that you are about AVERAGE middle class or that you are in the UPPER PART of the middle class?

- Average
- Upper

37. Would you say that you are about AVERAGE working class or that you are in the UPPER PART of the working class?

- Average
- Upper

38. What is the highest level of education you have completed?

- No high school (1)
- High school graduate (2)
- Some college (3)
- 2-year college (4)
- Bachelor degree (5)
- Post-grad (6)

39. Are you of Spanish, Latino, or Hispanic origin or descent?

- Yes (1)
- No (2)

40. Which of the following best describes your current employment status?

- Full-time (1)
- Part-time (2)
- Temporarily laid off (3)
- Unemployed (4)
- Retired (5)
- Permanently disabled (6)
- Homemaker (7)
- Student (8)

41. Thinking about politics these days, how would you describe your own political viewpoint?

- Very liberal (1)
- Liberal (2)
- Moderate (3)
- Conservative (4)
- Very conservative (5)
- Not sure (6)

42. Would you describe yourself as a born-again or evangelical Christian, or not?

- Yes (1)
- No (2)

43. What is your present religion, if any?

- Protestant (1)
- Roman Catholic (2)
- Mormon (3)
- Eastern or Greek Orthodox (4)
- Jewish (5)
- Muslim (6)
- Buddhist (7)
- Hindu (8)

- Atheist (9)
- Agnostic (10)
- Nothing in particular (11)
- Something else (12)

44. Would you say that OVER THE PAST YEAR the nation's economy has?

- Gotten much better (1)
- Gotten better (2)
- Stayed about the same (3)
- Gotten worse (4)
- Gotten much worse (5)
- Not sure (6)

45. Which of the following statements best describes you for 2016 election?

- I did not vote in the election November 2016. (1)
- I thought about voting this time, but didn't. (2)
- I usually vote, but didn't this time. (3)
- I attempted to vote but did not or could not. (4)
- I definitely voted in the General Election in November 2016. (5)

46. For whom did you vote for President?

- Hillary Clinton (Democratic) (1)
- Donald Trump (Republican) (2)
- Gary Johnson (Libertarian) (3)
- Jill Stein (Green) (4)
- Someone else (5)
- Did not vote (6)

Chapter 5

Regional Inequality and Polarization

The face of the New Gilded Age is not only about massive incomes and differences in wealth between the rich and the poor. Regional economic inequality is another face of our current unequal economy, which has significant political ramifications. Income per capita in the rich and the poor states was converging in 1940–1960; however, this convergence trend has been slowing since 1990. Furthermore, the cost of moving from a poor state to a rich state has increased, so that moving to where there are more opportunities has become difficult (Ganong and Shoag 2017).

Political scientists address the geographical inequality issue from different angles. Cramer (2016) describes this geographical inequality as an urban and rural divide. The sense of deprivation among rural people develops as rural consciousness, which directs their resentment toward urbanites and the government. Gelman (2009) focuses on how rich voters in rich states and vote differently than rich voters in poor states. Affluent voters are more likely to vote Republican, but rich states are blue states and poor states are red states. He answers the puzzle by highlighting the fact that rich voters in rich states are less likely to vote for Republican candidates compared to the rich voters in poor states. These two studies approach regional inequality differently, but they share

a common idea. Regional economic differences push voters in certain directions, but voters respond in a non-economic way. Poor voters in rural areas develop a regional identity. Rich voters develop different cultural values in rich and poor states and that causes different vote choices.

In this chapter, I explore how regional inequality causes polarization in non-economic issues. First, I examine how regional income growth is correlated with non-economic – identity and social – issues and vote choice. Second, I use an instrumental variable regression to test if regional economic disruptions cause non-economic attitudes to move in a conservative direction. In the preceding chapter, I demonstrated that economic anxiety causes more biased racial attitudes using a survey experiment. The instrumental variable regression would show results that are in line with the previous chapter’s findings, but with more real-world data.

5.1 Regional Income Growth and Political Attitudes

5.1.1 Data

To study the effects of the local economy on voters’ political attitudes and vote choice, two types of data are required: public opinion data and regional economic data. For public opinion data, I use the Cooperative Congressional Election Study (CCES) 2012 (Ansolabehere and Schaffner 2017). CCES has a large sample size ($n = 54,535$ in 2012) that is granular enough to study subnational variation in public opinion. To obtain regional economic information, I use a dataset prepared by Chetty et al. (2014). Chetty et al. collected economic variables in the period of 2005–2010 on the commuting zone (CZ) level to study the correlations of regional differences in intergenerational mobility. CZ is a useful geographical unit since it is supposed to represent labor markets. It is especially useful for economic geography because people’s everyday economic activity is based on

the labor market to which they belong.

5.1.2 Dependent Variables

I am interested in three outcome variables: policy positions in economic issues, non-economic policy positions, and vote choice. I take advantage of CCES's rich pool of questions on various policy issues. In CCES 2012, three main economic issues were addressed, namely the Ryan budget bill, the Simpson-Bowles budget plan, and the Middle Class Tax Cut Act. CCES asked respondents to answer all three policies dichotomously either in support or opposition. I include four questions of non-economic issues, including abortion, gay marriage, immigration, and affirmative action. I rescale every question's response in a 0 to 1 range. Finally, I take the average of all three economic responses and four non-economic responses. A higher value means a more conservative policy position.

5.1.3 Regional Economic Variables

There are many variables to measure the economic status of regions. Chetty et al.'s (2014) dataset has 24 economic variables. Although all these variables have unique values that can be useful to researchers, there is one primary economic variable: household income per capita.¹ Another variable I include in the analysis is household income growth, which provides a dynamic picture of each region. It can explain cases like the North Dakota oil boom or factory closures in the Rust Belt. Additionally, I include two more variables in the analysis: Gini index and intergenerational absolute mobility. With the Gini index, I am able to demonstrate how inequality within each labor market influences political attitudes. Intergenerational

¹I conducted factor analysis and principal component analysis on these 24 variables to simplify the amount of information. The household income per capita variable is the most correlated with the other variables and explains the variation of the multidimensional space. The second most important variable is absolute mobility, one of Chetty et al.'s (2014) multiple measures of intergenerational mobility.

absolute mobility is the average expected future income percentile of children from bottom 25 percentile parents Chetty et al. (2014, 1561-1563). Therefore, including the intergenerational mobility variable helps to gauge the extent of equal opportunity in labor markets. An absolute mobility of 50 means that children from the bottom 25 percentile are expected to be in the 50 percentile in the future.

5.1.4 Method

I run a multivariate regression with state fixed effects to explore how regional economic variables are correlated with political attitudes.² Including state fixed effects can help to control for unobserved omitted variables, such as cultural factors, at the state level. The purpose of the analysis here is not to identify a causal relationship; thus, having state fixed effects is not crucial for the analysis. I include regression results without state fixed effects in the Appendix. For uncertainty, I use cluster standard errors at the state level. There are a few demographic controls I include in the regression: 7-point party ID, race, gender, age, religion, income, and education.

5.1.5 An Odd Couple: Regional Economy and Non-Economic Policy Positions

How are regional economic variables associated with policy positions? The results of the multivariate regression with state fixed effects are presented in Table 5.1. The first thing to notice from the results is that the household income per capita variable is not correlated with economic policy positions, but with non-economic positions and vote choice. The coefficients of the household income per capita variable on non-economic

²There is no need to run a hierarchical model because the estimation goal is not to estimate varying intercepts or varying slopes by region. A hierarchical model can help when there is not enough information at the subnational level. In the Appendix Table 5.4, I present results from a hierarchical model for reference.

issues and vote choice are highly similar. The finding seems counterintuitive. It, however, resonates with Gelman's (2009) argument. Richer regions have more socially liberal positions. Furthermore, those positions on non-economic issues are more crucial to vote choice. However, household income growth is not significant on any dependent variable. Yet, there is one interesting fact to note about household income growth. The sign of the coefficient for non-economic issues is different than others. The coefficient from a model without state fixed effects (shown in Appendix Table 5.5) is also negative and has a bigger extent. Although the estimate is marginally significant ($p = 0.069$), the result suggests that higher income growth is somewhat weakly correlated with non-economic liberal positions.

Table 5.1: Regression: Regional Economy and Policy Positions

	<i>Dependent variable:</i>		
	Non-Economic	Economic	Vote (<i>Rep</i> = 1)
	(1)	(2)	(3)
<i>log</i> Household Income per Capita	-0.070** (0.014)	-0.001 (0.020)	-0.071** (0.017)
Absolute Mobility	0.002* (0.001)	-0.0004 (0.001)	-0.0004 (0.002)
Gini Index	0.010 (0.038)	0.067* (0.027)	0.087+ (0.046)
HH Income Growth	-0.440 (0.493)	0.439 (0.342)	0.688 (0.625)
Controls	Y	Y	Y
Fixed Effect	Y	Y	Y
Observations	33,629	31,895	25,031
R ²	0.449	0.107	0.667
Adjusted R ²	0.449	0.106	0.666
Residual Std. Error	0.204	0.259	0.288
F Statistic	464.569***	64.975***	848.653***

Note:

+ $p < 0.1$; * $p < 0.05$; ** $p < 0.01$

The results on intergenerational mobility tell a slightly different story. The greater

the opportunity for people to escape poverty, the more non-economically conservative position the region has. Higher per capita income and income growth are correlated with liberal non-economic positions, but more economic opportunities are associated with conservative positions. The reason why this result seems contradictory could be the fact that the intergenerational mobility measure has a longer timespan than other variables. The measure uses people born in 1980–1985 and tracks their income in the late 2000s. The fact that the current economic situation is bad does not mean that there were no economic opportunities 30 years ago. The Gini index is the only variable that has a significant relationship with economic policy positions. As the labor market becomes more unequal, more people assume economically conservative positions.

What does the regression in the study imply for political polarization? The finding suggests that regional inequality and polarization in non-economic issues are closely connected. Regions with high household incomes have more liberal views while conservative views are more dominant in poorer areas. If this statistical correlation is causation, then growing regional inequality would contribute to political polarization. This naturally leads to the next study that uses an instrumental variable as an identification strategy.

5.2 The Impact of Regional Economy Disruption on Policy Positions: Instrumental Variable Regressions

5.2.1 Chinese Import Shock

To test if economic disruption causes more conservative policy views in non-economic issues, I use the Chinese import shock as an instrument. After China's accession to the WTO in December 2001, the amount of imports from China has grown dramatically.

The value of imports from China has grown 1,156% from 1991 to 2007 (Autor, Dorn and Hanson 2013, 2158). The impact of growing import competition with China has been widely studied since Autor, Dorn and Hanson (2013) published a landmark study on the subject. The impact is striking. It is estimated that a total of 2.0–2.4 million jobs disappeared (Acemoglu et al. 2016). The increasing import shock caused lower wages and increased the transfer of benefits payments.

The political consequences are overarching. In Congress, representatives who represent heavily hit districts become more protectionist (Feigenbaum and Hall 2015), and engage in anti-China legislation (Kleinberg and Fordham 2013; Kuk, Seligsohn and Zhang Forthcoming). Furthermore, import competition is causing political polarization (Autor et al. 2016). Autor et al. (2016) pushed their argument further and estimated that Donald Trump would not have won the 2016 election if Chinese import exposure had not been increased.

To measure the impact of Chinese import exposure on the local labor market, Autor, Dorn and Hanson (2013) constructed a dataset that disaggregates Chinese imports at the industry level (in four-digit SIC codes). They were able to estimate the import amount per worker by matching industry-level information with the labor market level. The import exposure per worker (IPW) is defined as:

$$\Delta IPW_{uit} = \sum_j \left(\frac{L_{ijt}}{L_{ujt}} \right) \left(\frac{\Delta M_{ucjt}}{L_{it}} \right) \quad (5.1)$$

In this expression, L_{ijt} is the number of workers in region i , industry j , and time period t . Subscript u denotes the United States (US) and c indicates China. The first half of the expression means the share of workers in region i over the whole nation u within the same industry and time. ΔM_{ucjt} indicates a change (Δ) in the dollar value of Chinese imports to the US from time $t - 1$ to t in a given industry j . The second half of the right

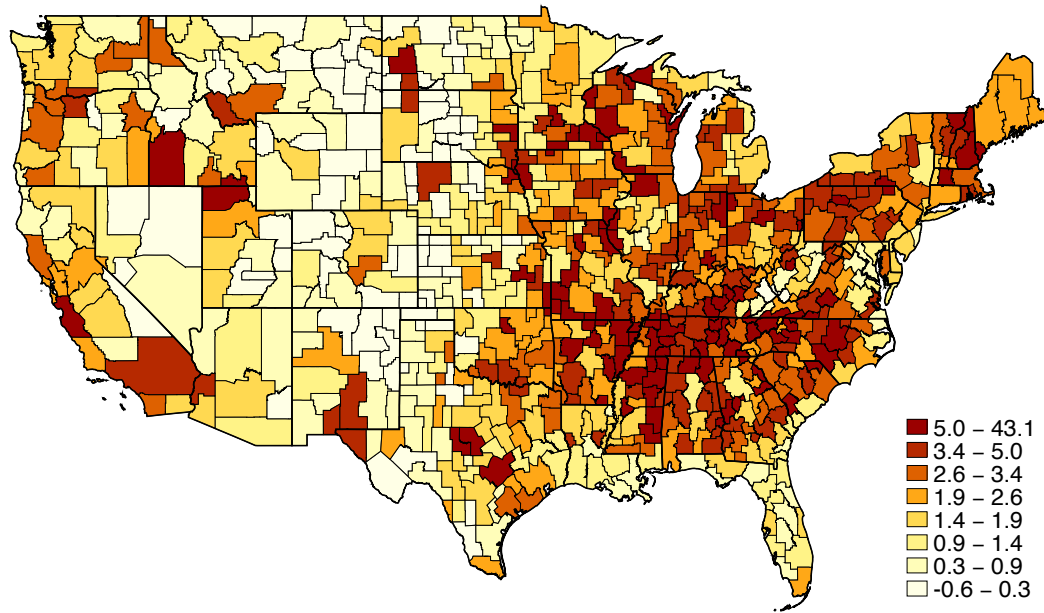


Figure 5.1: Distribution of Chinese Import Shock per Worker by Commuting Zones

hand side of the expression indicates the value of Chinese imports to the US divided by the number of workers in region i and time t . Import exposure per worker in region i and time t can be obtained by aggregating the right hand side, Chinese import's value per worker in a given industry j over every industry in the US.

Figure 5.1 illustrates the distribution of import shock across the nation. The map shows that the import exposure is concentrated in the Rust Belt, the Midwest, and the South. Areas where import shock is severe correspond with those areas that have low to negative income change (Figure 2.3) and staggering real estate price (Figure 2.4). Furthermore, areas with high ethnocentrism measured by internet search data (Chae et al. 2015; Stephens-Davidowitz 2014) roughly overlap with regions that were hardly hit by Chinese imports.

5.2.2 Instrumental Variable

The problem with an identification strategy using the Chinese import exposure variable is that imports from China can be endogenous to local market demand. For example, if a region has an increasing number of children, there would be an increased demand for toys. These toys are likely to come from China. The existence of these kinds of market demands creates endogeneity issues. I use an instrument variable developed by Autor, Dorn and Hanson (2013) to tackle the identification concerns. The instrument uses Chinese exports to non-US affluent economies and lagged labor market information, which are both exogenous to current market demand. China could grow their imports because of their relative competitiveness in the global market. By using Chinese export information to rich non-US markets, the instrument can leverage the competitiveness of Chinese industries that are exogenous to regional confounders in the US.

Formally, the instrument is defined as follows:

$$\Delta IPW_{oit} = \sum_j \left(\frac{L_{ijt-1}}{L_{ujt-1}} \right) \left(\frac{\Delta M_{ocjt}}{L_{it-1}} \right) \quad (5.2)$$

where subscript o indicates non-US other markets. The instrument also uses labor market information of time $t - 1$. The proportion of workers in region i within the US, u , and industry i comes from a lagged time $t - 1$. The denominator for calculating the total number of workers in industry i uses information from $t - 1$ as well. The first half of the expression indicates the share of workers in region i over the nation within

5.2.3 Economic Disruption Causes Conservative Non-Economic Policy Positions

In this section, I present the results from the instrumental variable (IV) regression. Before explaining the results, there are a few notes on the data and methods. For public

opinion data, I use the CCES 2012 again with the same dependent variables. I include the same individual level control variables in the IV regression. The difference between the regression from the previous section and the IV regression is that I use the instrumental variable (ΔIPW_{oit}) for the endogenous variable, Chinese import exposure per worker (ΔIPW_{uit}). The Chinese import exposure data was collected by Autor, Dorn and Hanson (2013). The standard errors are clustered at the state level.

Table 5.2: Instrumental Variable Regression: Import Shocks and Public Opinion

	<i>Dependent variable:</i>				
	Non-Economic		Vote (Rep = 1)	Economic	
	<i>IV</i>	<i>Reduced</i>	<i>IV</i>	<i>IV</i>	<i>IV</i>
	(1)	(2)	(3)	(4)	(5)
Import Exposure per Worker (China)	0.008** (0.001)		0.003** (0.001)	-0.0003 (0.001)	-0.003+ (0.002)
Instrument		0.002* (0.001)			
Control	N	N	Y	Y	Y
State Fixed Effect	N	N	Y	Y	Y
Observations	49,016	49,016	41,255	30,670	31,895

Note: ⁺p<0.1; *p<0.05; **p<0.01

Table 5.2 summarizes the results from various IV regressions. The first three columns suggest that increased import competition from China causes conservative public opinion on non-economic issues. The effect size is quite small, but it is relatively big compared to the coefficient of party ID, the most powerful variable for predicting public opinion. One unit increase of the 7-point party ID is associated with a 0.03 percentage point increase in conservative opinion. The size 0.03 is 23 times bigger than the coefficient of the import exposure variable. Given that the difference between the maximum value and the median value of import shock is 41.1 (\$41,100 per worker), only about an increase in half (56.6%) of the median-maximum difference is equivalent to one

unit increase in party ID.

Chinese import exposure only causes an increase in non-economic conservative views. Import shock does not have a statistically significant impact on vote choice. Voters keeping their vote choice but changing their opinion means that Republicans are becoming extreme, while Independents and Democrats are moving in a conservative direction. This finding means the polarization process is not just a sorting process – liberals become Democrats and conservatives become Republicans – as Levendusky (2009) argues. Studies on public polarization have not shown that certain social or economic conditions affect voters' changing their opinion toward the extreme. The IV regression results here show that economic disruption can cause voters to become extreme without switching their partisanship.

Table 5.3: IV Regression: Asymmetric Public Polarization

	<i>Dependent variable:</i>	
	Non-Economic (1)	Vote (<i>Rep</i> = 1) (2)
Import Exposure per Worker (China)	0.004* (0.002)	0.004 (0.005)
Republicans	0.112** (0.007)	
Independents	-0.206** (0.006)	
Import Exposure × Republicans	0.004+ (0.002)	
Import Exposure × Independents	0.0004 (0.002)	
Observations	32,194	25,706
R ²	0.390	0.183
Adjusted R ²	0.389	0.182
Residual Std. Error	0.214 (df = 32134)	0.451 (df = 25650)
<i>Note:</i>	+p<0.1; *p<0.05; **p<0.01	

Economic disruption not only causes voters to become extreme, but also moves

politicians to the extreme. Autor et al. (2016) demonstrate that districts severely hit by import exposure do not experience that many party turnovers; however, Republican representatives are either replaced with more extreme representatives or move themselves toward the right end of the ideological distribution. The picture of the voters perfectly mirrors what happened with the politicians. Table 5.3 tells the voters' side of the story. Regardless of partisanship, everybody moves in a conservative direction on non-economic issues. However, while testing the heterogeneous treatment effect of economic disruption, Republicans have a stronger treatment effect than Democrats and Independents. The story here tells us that the impact of import exposure is disproportionately stronger among Republican voters. The second model in Table 5.3 confirms Autor et al.'s (2016) no turnover argument. I removed the party ID control in the second model because it could be too restrictive, given the importance of the party ID variable. However, removing the party ID does not change the fact that there is no causal impact of import exposure on vote choice.

The results presented in this chapter reaffirm the findings from Chapter 3 and Chapter 4. Regional economic conditions, specifically economic disruption, causes voters to hold more conservative opinion on non-economic issues. Economic circumstances surrounding individual voters matter in their formation of political opinions. However, these do not affect economic opinions.

5.3 Appendix

Table 5.4: Alternative Specification: Hierarchical Model

	<i>Dependent variable:</i>	
	Non-Economic	
	(1)	(2)
<i>log</i> Household Income per Capita	−0.110** (0.011)	−0.072** (0.014)
Absolute Mobility	0.001 (0.001)	0.002** (0.001)
Gini Index	0.035 (0.029)	0.019 (0.037)
HH Income Growth	−1.136** (0.323)	−0.579 (0.380)
State Fixed Effect	N	Y
CZ Intercept Random Effects	0.020	0.016
Number of Individuals (Level 1 units)	33,629	33,629
Number of CZs (Level 2 units)	492	492
Log Likelihood	5,631.659	5,540.401
Akaike Inf. Crit.	−11,223.320	−10,956.800
Bayesian Inf. Crit.	−11,054.850	−10,434.570
<i>Note:</i>	+p<0.1; *p<0.05; **p<0.01	

Table 5.5: Regression: Regional Economy and Policy Positions without State Fixed Effects

	<i>Dependent variable:</i>		
	Non-Economic (1)	Economic (2)	Vote (<i>Rep</i> = 1) (3)
<i>log</i> Household Income per Capita	−0.097** (0.013)	−0.014 (0.014)	−0.106** (0.016)
Absolute Mobility	0.001 (0.0008)	−0.0003 (0.0005)	−0.001 (0.001)
Gini Index	0.002 (0.028)	0.090** (0.022)	0.163*** (0.027)
HH Income Growth	−0.805 ⁺ (0.442)	0.311 (0.268)	0.099 (0.518)
Controls	Y	Y	Y
Observations	33,629	31,895	25,031
R ²	0.447	0.106	0.666
Adjusted R ²	0.447	0.105	0.665
Residual Std. Error	0.204	0.259	0.289
F Statistic	1,597.449***	221.852***	2,928.836***

Note:⁺p<0.1; *p<0.05; **p<0.01

Chapter 6

Conclusion

Skyrocketing income inequality has been the most defining feature of the U.S. economy in the past 40 years. Similarly, political polarization has become one of the most important problems in U.S. politics over the past few decades. Scholars who study political economy have demonstrated that politics and economy are closely related, but the relationship between polarization and inequality is particularly striking. This dissertation delves into this interesting association. McCarty, Poole and Rosenthal (2006) established that the extent of economic inequality and the degree of polarization in Congress are tightly correlated. However, it has remained unclear if inequality and polarization share a certain causal relationship, and the suggested mechanism to explain the “dance” of inequality and polarization did not have a solid microfoundation. This dissertation is an effort to move the findings from McCarty, Poole and Rosenthal’s (2006) groundbreaking study further.

To fill the link in the literature, I answered two different questions on inequality and polarization: (1) Does rising income inequality lead to political polarization among the American public? and (2) If so, what is the causal mechanism that links the two trends? I argue in this dissertation that income inequality has a causal impact on political

polarization. The link that connects these two macro-trends at the micro-level is economic anxiety.

Individuals with economic distress are more likely to hold in-group favoritism and out-group bias. Psychologically, individuals with economic distress need more social esteem and coping mechanisms regarding financial uncertainty, where an attachment to a specific social identity helps, compared to those without economic distress. In terms of self-interest, individuals more likely to be threatened by an open labor market with out-group competitors typically prefer policies that discriminate against out-groups. Increasing economic inequality produces more individuals with financial insecurities and exacerbates economic differences across regions, increasing the number of voters likely to subscribe to identity politics. Caught in the framework of identity politics, voters who would potentially benefit from redistributive policies oppose them. This is why polarization in the public only occurs in non-economic dimensions (e.g., identity/social issues) and not in economic dimensions (e.g., wealth redistribution).

To test the proposed mechanism, I presented findings from multiple empirical tests. In Chapter 3, I presented findings that illustrate the big picture of what has happened in the past 40 years. I demonstrated that the correlation between income inequality and political polarization is found not only in Congress but also among the public. I discovered that the correlation between the Gini index and the public polarization index are strong in the non-economic dimension but weak in the economic dimension. The roots of the non-economic dimension can be found in the strength of voters' racial resentment as well as their opposition to social equality. Furthermore, I found that partisans who have strong antipathy toward the other party were likely to adopt more extreme ideologies regarding issues in the non-economic dimension.

To test whether what I found in Chapter 3 was causal, I designed and conducted two experiments to test if economic anxiety and/or economic stability instigated changes

in racial attitudes among the general public. The two experiments primed subjects to think about a situation that involved financial stress or abundance. Respondents who were asked to consider an economically stressful situation showed higher racial resentment and ethnocentrism than control group respondents. Subjects primed with a financially stable situation had lower racial biases than control group subjects. I was not able to find causal effects on other sets of outcome variables such as non-racial policy preferences. The findings in this chapter suggest that racial attitudes are not totally independent of economic situations surrounding individuals. Economy and culture are even more closely intertwined than scholars have thought.

To test whether economic disruption contributes to polarization, I studied the cross-sectional relationship between regional wellbeing and public opinions on economic and non-economic issues. From a series of cross-sectional regressions, I found that more economically abundant regions were more likely to have liberal opinions on non-economic issues. That correlation could not be found in relation to economic issues. I further tested the causal effect of economic disruption using an instrumental variable regression. Using an instrument that captures the extent of Chinese import exposure to local areas, I revealed that the increasing scale of Chinese imports leads to more conservative opinions on non-economic issues. The prevalence of imports from China and the subsequent economic disruption caused voters to diverge from the middle; their views became more and more polarized.

6.1 Implications for Understanding the Economy and Culture

The electoral success of President Trump surprised many journalists and scholars. Around the same time, there were other surprising political events around the world

including the Brexit vote and the successes of far-right parties. Experts are attempting to understand these events by debating the roles the economy and culture have played in their manifestation. Scholars have, thus far, stood on either the culture side or the economy side in terms of understanding the catalysts for these outcomes. Voters were either facing cultural threats from minorities and immigrants or were anxious about the economy, respectively, so they sought new options by voting in certain ways.

These debates were set up in such a binary way that has forced scholars to pick one side to stand on. However, the theoretical framework and findings from my dissertation suggest that the way experts discuss this topic is misleading. Economic situations and culture are intertwined. My dissertation shows that a declining economy leads voters to develop biased racial attitudes and culturally conservative values. The approach that my dissertation adopts has started gaining attention in new studies in economics. Economic deterioration has had and continues to have various cultural and political impacts on nationalist attitudes, extreme right party votes, and Brexit votes (Colantone and Stanig 2016*a,b*; Dippel, Gold and Hebllich 2015). Family structures have also been affected. The rise of single mother families has been augmented by the decline in manufacturing (Autor, Dorn and Hanson 2017). The economy affects numerous aspects of life, from the cultural attitudes related to big political events to micro-level family formation patterns. My dissertation and these new studies suggest that scholars need to pay attention to the contextual effects of the economy on identity and culture to understand these emerging events around the world.

6.2 Implications for Studies on American Political Behavior

In the 1970s and 1980s, political scientists seeking to understand public opinion and political behavior began to focus on the rationality of voters. Thus, rational choice studies dramatically increased in this period. There are still many students of rational choice, but there was an interesting turn in this area of study in the late 1990s. An increasing number of scholars questioned rational choice assumptions and attempted to understand political behavior using the social identity framework. Studies such as Green, Palmquist and Schickler's (2004) and Achen and Bartels's (2016) reflect this new wave of political scientists' interest in group identity.

What accounts for these ups and downs in terms of approaches in American political behavior studies? Trends in academic approaches are frequently influenced by close disciplines like economics or psychology. Of course, economics and psychology have underwent their own transformations, emphasizing behavioral foundations and revisiting the traditional rational choice assumption.

However, political science has always reflected changes in the world. Terrorism became an important topic in a post-9/11 world. Polarization has been the central focus since the mid-2000s. The moment when scholars renew their interest in social identity will be when identity politics becomes more important to voters. Our economic reality impacts scholars' approach in this field. As my theory suggests, group identity is important to individuals going through economic disruption. As steady economic deterioration has continued to occur since the 1990s, a large number of individuals have continued to subscribe to identity politics. In the 1990s, identity politics wore the face of culture wars. After the mid-2000s, this conflict has become more obvious in the domains of race and ethnicity.

With the increasing number of studies on social identity, scholars have begun to grasp the new reality facing the political stage. However, these studies cannot fully understand the transformation of the electorate unless they pay more attention to the economy. Identity politics have become salient in the public sphere for a reason; one of these reasons is the increasing number of racial minorities and immigrants. However, as my theoretical framework and empirical findings suggest, identity politics is closely related to the economy. Thus, I here suggest that future studies on American political behavior should attempt to understand the intersection between the economy and identity politics to build upon and further understand the significance of this dissertation and related studies.

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