

Faculty Research Grant Report
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Restatement of Problem Researched

Partisan polarization is one of the most prominent and important phenomenon under study in political science today. Despite a great deal of research, measures of polarization have been wanting, and thus it has limited the reach and importance of empirical investigations of polarization. Scholars, pundits, and public officials have been involved in an intense debate over the existence of and extent of political polarization in the mass electorate and among elites for well over a decade. The purpose of my research is to develop a consistent theory of political polarization, to introduce a novel and theoretically defensible measure of political polarization, and to test it against the most comprehensive dataset of mass/elite attitudes to date. I introduce a new and theoretically defensible measure of partisan polarization based on the distributional characteristics of opinion and use it specifically to assess one of the most important social issues in politics—and one that has features prominently in debate and analysis of the “Culture Wars” thesis—abortion. I test the polarization hypotheses using data never before brought to bear on the subject in the most comprehensive examination of political polarization to date.

Review of Research Procedure

The abortion issue is the *sine qua non* of social issues and it has been on the public agenda, post *Roe*, for several decades. Increasing partisan polarization on the abortion suggests that the parties are increasingly motivated on the social issue dimension and that public debate on social issues and the public policy process may be structured by partisan competition on this dimension. In order to assess the interaction between partisan polarization on abortion at the mass and elite level, I used NARAL (National Association for the Repeal of Abortion Laws) interest group scores from 1978-2004 for the elite level and ANES data for the mass level. The interest group score paper-reports were obtained courtesy of NARAL. A data set of the NARAL interest group scores for both

the House and Senate were created with the assistance of Zach Sellers, the faculty research grant-funded research assistant for the project. Data on abortion voting (as measured by the interest group scores) was entered into EXCEL spreadsheets and analyzed using the SAS statistical computing system. A paper entitled "Partisan Polarization on Abortion: the Elite-Mass Linkage" using the NARAL scores for the Senate was presented at the 69th annual national conference of the Midwest Political Science Association in Chicago, IL.

Summary of Findings

I have developed a theoretically defensible valid and reliable measure of polarization at both the mass and elite levels for issue and policy dimensions, and specifically for the abortion issue dimension. I use this measure to examine mass (ANES data) and elite (NARAL data) abortion attitudes since the 1970's, and I find substantial and significant evidence of partisan polarization on abortion attitudes over this period. I find strong support for a simultaneous relationship between mass and elite abortion attitudes over this period. These findings run directly contrary to Morris Fiorina's argument that the public has not polarized on social issues. I reject his theoretical construction of increasing average 'tolerance' on social issues as a measure of depolarization, and provide what I believe to be a better empirical test of polarization grounded in the literature on polarization.

There has been substantial, statistically significant, robust, and functionally linear trend of polarization on abortion attitudes for the mass public and elites since the 1970's. While the parties have separated on the issue of abortion substantially (increasing alienation), they have also become more consistent and coherent within their caucuses on the issue of abortion (consolidation – increasing identification). Both factors are strong evidence of polarization at the mass and elite levels on abortion. Republicans and Democrats in the citizenry are just as far apart from one another on abortion as elite partisans are, and they are as far apart now as they ever have been since the

1970's. This has important implications for democratic politics, the terms and nature of our national policy debate, and the policy outputs of our constitutional republic.

Conclusions and Recommendations

While the MPSA paper uses just the Senate scores as a proxy for elite abortion attitudes, the data collected and the data set created using the NARAL interest group scores includes the House as well (the data entry for the House was not completed in time for use in the MPSA paper). Thus it provides a wealth of data for future research into elite abortion attitudes as well as the trends in abortion attitudes in Congress in both the Senate and the House. It also provides a basis for comparison of the two houses thus illustrating the robustness of the previous findings and an avenue for addressing other issues such as the effects of redistricting on abortion positions in Congress. In short, this data has already proven fruitful in investigating political polarization, partisan polarization, abortion attitudes at the mass and elite levels, abortion voting in Congress, and in addressing the "Culture Wars" thesis. Furthermore, a great deal of additional study and analysis is now possible as a result of producing this unique and important data and data analysis with the funding of the ATU faculty research grant.

Partisan Polarization on Abortion: the Elite-Mass Linkage

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Abstract

Partisan polarization is a much discussed topic but measures of polarization have been wanting, limiting the reach and importance of empirical investigations of polarization. I introduce a new and theoretically defensible measure of partisan polarization based on the distributional characteristics of opinion and use it specifically on one of the most important issues in the Culture Wars debates: abortion. The abortion issue is the sine qua non of social issues and it has been on the public agenda, post Roe, for several decades. Increasing partisan polarization on the abortion suggests that the parties are increasingly motivated on the social issue dimension and that public debate on social issues and the public policy process may be structured by partisan competition on this dimension. In order to assess the interaction between partisan polarization on abortion at the mass and elite level, I use NARAL (National Association for the Repeal of Abortion Laws) interest group scores from 1978-2004 for the elite level and ANES data for the mass level.

THE CONVENTIONAL WISDOM ON POLITICAL POLARIZATION AND THE CULTURE WARS

My friends, this election is about much more than who gets what. It is about who we are. It is about what we believe. It is about what we stand for as Americans. There is a religious war going on in our country for the soul of America. It is a cultural war, as critical to the kind of nation we will one day be as was the Cold War itself. And in that struggle for the soul of America, Clinton & Clinton are on the other side, and George Bush is on our side. And so, we have to come home, and stand beside him.

- Patrick J. Buchanan, 1992 Republican National Convention

Pat Buchanan's gauntlet-throwing at the 1992 Republican National Convention reflects a powerful and uncompromising stand on one side a cultural divide that runs straight through the heart of the American public. A "struggle for the soul of America" is not exactly a clarion call for moderation. Buchanan gives voice to a view of American politics that has gained a great deal of traction in the media and among many students of politics in recent years. In short, the story is there is a culture war in America. It is evidenced by a distinct and deep moral cleavage in American society marked by significant partisan and societal divisions on a host of social issues. This thesis has engaged scholars, journalists, politicians, activists, and citizens. The notion of a nation divided in a cultural civil conflict permeates media treatments of politics, it has become an iconic buzz word, and it has been used to explain the rise of alternative media, the results of national and local elections, and the tone of political debate from the halls of Congress to the barstools in local drinking establishments. "Not since the Civil War and post-Reconstruction period has the country been so divided" says John Kenneth White of Catholic University (O'Keefe 2004). But are we?

Beginning with Hunter's exposition on the coming culture war in America, some scholars have posited a growing schism in the American body politic (Hunter 1991). It is characterized by an increasingly polarized public on social and cultural issues. While Hunter did not invent the idea of a "culture war" in America, he is responsible for the first serious scholarly treatment of the subject in its current form and coining the term. Hunter argued that cultural issues such as abortion, gay rights, funding for the arts, women's rights, etc. are the canaries in the coal mine of an emerging schism in the

Figure 1: Frequency of Social Issue Mentions in the New York Times – 1969-2008

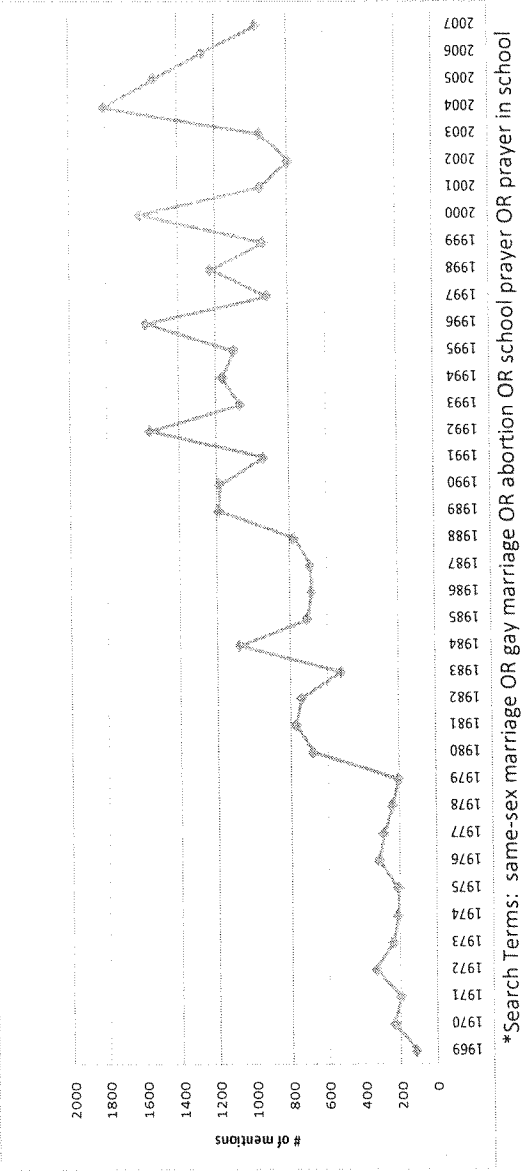
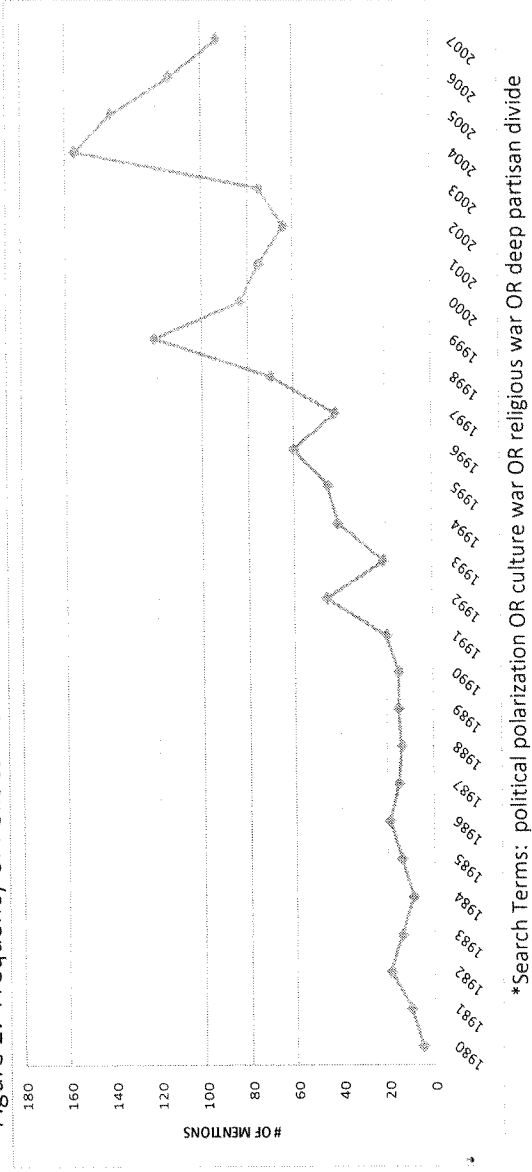


Figure 2: Frequency of Political Polarization Mentions in the New York Times – 1980-2007



populace that could lead to real political violence akin to that seen in such starkly divided publics as the Republic of Ireland, a dangerous schism echoed in Wilcox’s studies of the Christian Right in American politics (Hunter 1991, 1994; Wilcox 1992, 1996; Wilcox and Rozell 1995). The American people appear to agree with Hunter and Wilcox. In a poll taken in 2004, 72 percent of Americans assessed the country’s division along fundamentally different views on gay marriage, abortion, and guns as an important or serious problem requiring moderate or major changes by presidents in the future (see Table 1). Only 25 percent of Americans identified the culture war as a small or moderate problem.

The implications of a true culture war—a truly polarized public—are apparent. With the center vacated and public opinion coalescing around two distant poles, the potential for compromise would evaporate. With the political system unable to cope with the disposition of policy opinion, other means could be sought to achieve political ends. Yet there has been no eruption of political violence in America. No end to compromise apparent in the near two decades since Hunter made his grave

Table 1: Assessing the Problems for Future Presidents: “The country divided into two Americas where people hold fundamentally different values about gay marriage, abortion and guns”¹

Very Serious / Major Changes	31%
Very Serious / Moderate Changes	13
Important / Major Changes	8
Important / Moderate Changes	20
A Small Problem	17
Not a Problem	8

¹ Toward a Bold Politics Survey. Survey by Public Interest Project. Conducted by Greenberg Quinlan Rosner Research, April 5-April 8, 2004 and based on telephone interviews with a national registered likely voters (see note) sample of 1,000. Respondents were asked to assess a list of issues presidents might face in the future, including the one reported here: “The country divided into two Americas where people hold fundamentally different values about gay marriage, abortion and guns.”

warning. Is it ahead? Furthermore, is it even true that that the American electorate has become more polarized? If not, it bodes well for the continued existence of a peaceful political culture, however contentious at times. A number of scholars and observers of politics have challenged the conventional wisdom on political polarization making exactly that case.

In the popular treatments of polarization, the most common pieces of evidence cited to support the existence or exacerbation of polarization include close elections and redistricting (Red vs. Blue America), an apparent increase in heated partisan rhetoric, and the increasing dominance of social wedge issues as political fodder in elections and political debate (Barone 2005). Thomas Frank, in *What's the Matter with Kansas?*, laments this very phenomenon, arguing Republicans have turned to social issues to entice the lower economic classes into voting for Republicans rather than the Democrats, who he believe better represent their economic interests. The 2000 and 2004 presidential elections are often cited by the media as evidence of political polarization (Brousk 2004). These analyses focus on the state or congressional district partisan divides. For example, Dan Balz points to the fact of a historically low 59 of the 435 congressional districts 'splitting' their presidential and congressional votes between the parties in 2004 and he argues redistricting is the primary culprit (Belz 2005). The media is replete with examples where journalists and political observers connect political rhetoric with political polarization. Wendy Shiller, in reaction to the shooting of Representative Gaby Giffords, argues, "I think things have gotten worse in the American political arena in terms of dialogue. Things that used to be unacceptable in terms of behavior toward elected officials are now acceptable" (Knigge 2011).

These accounts are either wrong, from an empirical standpoint, or largely tangential to the fundamentals of political polarization. As scholars such as Morris Fiorina have noted, close elections are not evidence of political polarization (Fiorina, Abrams, and Pope 2004). Elections in the United States

involve the dichotomous choice of candidates, hence the choice itself is 'polarized' and, furthermore, a polarization of the candidates could result in 'polarized elections' with no change in the underlying distribution of political opinion in the mass electorate. Frank's argument relies on an imposed view of what the 'proper' political interests of the lower classes is and, as Larry Bartels has aptly demonstrated, there is little empirical evidence the lower classes have shifted in the Republican direction, let alone having done so due to Republican rhetoric on social issues (Bartels 2006). Gelman finds results consistent with Bartels with respect to the influences of class on partisan preference at the individual level, but also points out that income is at a different level of aggregation (states) has an inverse relationship between income and party preference (Gelman et al. 2005). Both agree that the poor consistently vote Democratic and the rich consistently vote Republican. Finally, while political rhetoric may play a role in political polarization, it is not political polarization in and of itself. Certainly whether political rhetoric has become "more extreme" is an empirical question left unanswered by most of those who cite the increasing polarization of political rhetoric; rather they rely on anecdotes to support their generalization. Extreme rhetoric need not be caused by political polarization nor is it a necessary aspect of political polarization.

DUDE, WHERE'S MY POLARIZATION? CRITICS & ADHERENTS OF THE POLARIZATION THESIS

The academic debate over polarization is quite distinct from the popular treatments of the subject and reflects a debate over the concept of polarization, the empirical evidence for and against the existence of polarization, and the existential question of the impact polarization has on our democratic system of government. A number of scholars have followed in Hunter's shoes, pointing to empirical evidence of political polarization in recent years at both the mass and elite levels (Campbell and Cannon 2006). While elite level polarization has not generated a great deal of debate, such cannot be said of mass political polarization. Academics have polarized on two primary questions with respect

to mass political polarization: 1) Has the mass electorate polarized? 2) Do the masses polarize as a consequence of elite polarization, or is mass polarization the determinant of elite polarization?

At the elite level, there is little debate over the apparent polarization of the past few decades. Poole and Rosenthal identified significant partisan polarization in Congress as early as the 1980's, and subsequent research of elites at the level of party activists (i.e. nominating convention participants), high-level political participants (i.e. interest groups), and those who hold elected office (i.e. members of Congress) have all identified increasing polarization between the parties and increasing ideological purity and conformity (Brady and Han 2006; Campbell and Cannon 2006; Mann 2006; Poole and Rosenthal 1984; Theriault 2008).

At the level of the mass public, Ben Bishop's geographical census-based analysis for the American Statesman points to a social mobility trend whereby communities have become more ideologically coherent, leading to polarized politics (Bishop 2004, 2005, 2005). Hetherington argues that elite party polarization has redounded to the mass electorate in the form of increasingly ideologically coherent mass parties (Hetherington 2001). Jacobson has found growing partisan divides in presidential public opinion (Jacobson 2002; Jacobson and Edsall 2006). Abramowitz and Saunders find deep and deepening divides in the mass public on political issues among partisans, "red" versus "blue" states, and religious groups (Abramowitz and Jacobson 2006; Abramowitz and Saunders 2005).

On the other hand, DiMaggio, Evans, and Bryson, find little evidence of polarization across most issue dimensions in a longitudinal study of polarization using the GSS (DiMaggio, Evans, and Bryson 1996). Only on abortion did they find evidence of increasing constraint and bimodality in the issue dimension. Even that finding has been called into question, as Mouw and Sobel argue, using a different statistical formulation of polarization, that abortion opinion in the mass public has not polarized (Mouw and Sobel 2001). However, the most influential counter-argument to the polarization thesis has been

registered by Morris Fiorina and his coauthors in his seminal 2004 treatise labeling the “culture war” a myth (Fiorina, Abrams, and Pope 2004).

Fiorina makes several arguments regarding the causes and nature of polarization among masses and elites, but his fundamental argument is that the story of growing polarization in the American electorate over the last ten to fifteen years, particularly over social issues, is apocryphal. There is no political polarization. “The simple truth is that there is no culture war in the United States—no battle for the soul of America rages...” (Fiorina, Abrams, and Pope 2004). The trend in American public opinion over the last several decades, according to Fiorina, is one of growing centralization and moderation of the electorate on social issues (Fiorina, Abrams, and Pope 2004).

Fiorina argues that the American electorate is largely centrist across most political issues (including such hot button issues as abortion and homosexual rights), that they remain relatively ambivalent on the policies related to these issues, and that the trends in public opinion in the American electorate reflect increasing tolerance rather than divergence and conflict (Fiorina, Abrams, and Pope 2004). Fiorina points to relatively small shifts in the average and moderate opinions on abortion (the *sine qua non* of salient social issues) in the electorate over the last few decades as evidence that the American public’s social views are stable and centrist. The electorate over the past thirty to forty years has been relatively stable in its distribution of political opinion, accordingly. “There is little evidence that American’s ideological or policy positions are more polarized today than they were two or three decades ago, although their choices often seem to be” (Fiorina, Abrams, and Pope 2004). Thus the American mass electorate is largely centrist on the range of political issues, including hot-buttons such as abortion and homosexual rights, and not sharply divided as suggested by the polarization thesis.

Fiorina argues the myth of political polarization along cultural lines is a product of elite activists promoting the perception of a divided nation and bad interpretation of the available data by a credulous media establishment. “The myth of a culture war rests on misinterpretation of election returns, lack of

hard examination of polling data, systematic and self-serving misrepresentations by issue activists, and selective coverage by an uncritical media more concerned with news value than with getting the story right” (Fiorina, Abrams, and Pope 2004). Fiorina posits that the only true polarization observable over this time span is among the elites in the two political parties, whom have polarized absent or despite of any signals from the voters.

One of Fiorina’s primary theoretical arguments is that partisan polarization is not the same thing as ideological or issue polarization. He argues that “sorting” is distinct from “popular” polarization. Fiorina posits that the realignment of the South has created a more conservative Republican party and a more liberal Democratic party, but that the ideological disposition of the mass public has remained stable. Partisan sorting can occur without any substantial shift in the issue opinions and policy positions of the electorate as a whole (Fiorina, Abrams, and Pope 2004). In 2004, 21 percent of voters described themselves as liberals, 34 percent as conservatives, and 45 percent were self-described moderates. These numbers are nearly the same as the average of the ideological disposition of the electorate found in the exit polls over the last 30 years (Galston and Kamarak 2005). So while the parties as defined by party identifiers have become more ideologically consistent at the mass level, the distribution of conservatives and liberals and the relative position on cultural issues of the mass public has not changed.

To support his argument on social issues and polarization, Fiorina looks at two of the more significant and defining cultural issues: abortion and homosexuality. On abortion, as noted previously, he finds “remarkable” stability over the time series. Furthermore, demographic groups (e.g. gender) either do not differ in their average positions or their differences aren’t as significant as expected (religious vs. the non-religious). On homosexuality, Fiorina identifies a strong liberalizing trend in the American public. Far from a “major front” in the culture war, Fiorina suggests that homosexuality is a decreasingly relevant issue dimension given that the American public is converging on a more tolerant

view of homosexuals and homosexual rights. This increase in tolerance of homosexuals, from Fiorina's perspective, is strong evidence against the Culture Wars thesis (Fiorina, Abrams, and Pope 2004).

RIGHTS & WRONGS & CULTURE WARS: TOWARDS AN UNCONVENTIONAL WISDOM ON POLARIZATION

"America is a divided nation. This is an indisputable fact. We are split on the war, split on abortion, split on the unions, split on what the Constitution really means and split on the role of religion in this nation."

- Cherry 2007

Having examined the evidence and arguments of the conventional wisdom and its critics, the task here is to assess where the polarization literature has gone wrong. There are problems with both the conventional consensus on the culture wars as well as the criticisms of that thesis. The research to date on polarization has poorly developed the concept of polarization, employed invalid and inaccurate measures of polarization, and failed to draw appropriate conclusions regarding polarization from the available data. A big part of this problem is the lack of consensus on what polarization is. Thus, the second task is to develop a rigorous conceptualization of political polarization: to determine what polarization is and what it is not. Third, I will develop empirical measures of polarization that will serve as the basis for the analysis of gay rights in America.

A POX ON ALL THEIR HOUSES: WHAT IS WRONG WITH THE POLARIZATION LITERATURE

Size [Density] Matters: Dispersion across a Distribution vs. Average Location

Fiorina's primary empirical evidence against polarization is based on time-series data of the average positions on a variety of cultural issues. He notes that abortion attitudes over the 'polarization' time period of the last thirty years has been relatively stable (Fiorina, Abrams, and Pope 2004). Yet, as can be seen in Table 2, average policy positions in the electorate can be stable while the distributional characteristics shift drastically. One of Fiorina's most important pieces of evidence against the Culture Wars thesis, just like the 'close elections' meme of the Culture War proponents, doesn't actually speak to political polarization. If we imagine Table 2 represents the distribution of opinion on a cultural issue

such as abortion over time, then it is apparent that the distribution of opinion on abortion can radically change while the location of the mean and median of the distribution is stable over the three time periods. Clearly a measure of polarization needs to account for the nature of the distribution of opinion on an issue and not merely the central tendency in an opinion dimension. Fiorina's analysis that tracks the movement of the *average* issue positions of the electorate over time completely fails to account for the distribution of that opinion over that time period. Further we cannot assess whether the direction of a change in the average issue position is evidence of depolarization without knowing what change in the distribution of opinion on an issue that move reflects. A move to the center may be evidence of depolarization...it may also be evidence of polarization. It isn't about where you are. It is about where you've come from.

Sorting v. Polarization: Squares v. Rectangles

Fiorina argues that elite polarization is explained by the fact that activists polarize due to their attentiveness to politics, their high levels of information, and their sophisticated ideological outlook in comparison to an uninformed, uninterested, and unconstrained mass public, consistent with Converse's evidence from a half-century ago. Rather than shifts towards the extremes in the mass electorate's policy preferences, Fiorina and his colleagues argue that their choices have become increasingly polarized due to the polarization at the elite and activist level. Thus ideological conservatives have increasingly moved into the Republican camp and ideological liberals have moved into the Democratic camp as the parties at the elite levels have presented increasingly stark ideological choices in elections. This results in what Fiorina calls "sorting" which, he argues, is distinct from polarization. "Some analysts prefer to refer to [sorting] as 'partisan polarization.' We prefer the term 'party sorting.' Reserving the term polarization for bimodal distributions of opinion: voters are polarized on an issue if more of them cluster at the extremes than locate themselves in the center, or if they are moving from centrist positions toward the extremes" (Fiorina and Levendusky 2006). The sorting process that occurs absent

TABLE 2: ILLUSTRATION OF POLARIZATION NOT REFLECTED IN AVERAGE POSITIONS IN A HYPOTHETICAL POPULATION

Population (n=8)	TIME PERIOD 1 Distribution of Pop. Opinion on X Issue	TIME PERIOD 2 Distribution of Pop. Opinion on X Issue	TIME PERIOD 3 Distribution of Pop. Opinion on X Issue
Citizen 1	0	0	5
Citizen 2	0	1	5
Citizen 3	0	2	5
Citizen 4	0	5	5
Citizen 5	10	5	5
Citizen 6	10	8	5
Citizen 7	10	9	5
Citizen 8	10	10	5
MEAN	5.000	5.000	5.000
STAND. DEV.	5.345	3.780	0.000

Source: Compiled by the Author.

preference polarization is illustrated in Table 2. Note that the number of moderates in the electorate never changes nor does their choice to align as an “independent” rather than with one of the parties. What sorting entails is conservatives dealigning from the Democratic Party and realigning with the Republican Party combined with the opposite shift in party allegiance among liberals. Thus the parties become more ideologically coherent while the distribution of opinion in the electorate remains unchanged.

Is sorting distinct from polarization? Fiorina’s distinction between sorting and polarization seems to hinge on *what* is being polarized rather than the distributional characteristics themselves. But polarization is generally applicable to any distribution, opinion or otherwise. Income, the attribute which economists have been primarily concerned with in defining and conceptualizing polarization, is not an opinion or issue dimension at all (Esteban and Ray 1994; Duclos, Esteban, and Ray 2004). Rather

than defining sorting as a different species from partisan polarization, opinion polarization and partisan polarization (i.e. sorting) should be conceived as two types or classes of polarization. Just like a square and a parallelogram are both rectangles, so too is sorting and opinion polarization two kind of political polarization. The unifying symmetry between the variety of polarizations (issue, ideological, partisan, etc.), and thus the justification for this classification scheme, is that we can assess changes in their distributions, from polarized to depolarized, similarly. The particular attribute, be it partisanship, abortion opinion, or ideology, is irrelevant.

POLITICAL POLARIZATION AS A CONCEPTUAL PROBLEM: FORMAL & EMPIRICAL FOUNDATIONS

“As the struggle proceeds, ‘the whole society breaks up more and more into two hostile camps, two great, directly antagonistic classes: bourgeoisie and proletariat.’ The classes, polarize, so that they become internally more homogenous and more and more sharply distinguished from one another in wealth and power” (Deutsch 1971)

Justice Potter Stewart, tasked with imposing a definition of obscenity in order to rule on the constitutionality of a fine imposed on a filmmaker for showing the French film *The Lovers*, said of obscenity that he could not intelligibly define it but that “I know it when I see it” (*Jacobellis v. Ohio* 1964). It is tempting to do the same with polarization. Polarization is relatively easy to visualize but much more difficult to define. Much of the empirical discussion of political polarization has glossed over what polarization is. There is a great deal of references to polarization, but few efforts to rigorously define it. Some conceive it as increasing extremism in the electorate or among social groups on issues, ideology, partisan and electoral choices. Others look to election results.

Polarization Nuts & Bolts: Necessary and Sufficient Components

Proposition 1: *Polarization is a change in the distribution of opinion in a population or between groups over an attribute such that the distribution contains more mass at the ‘poles’ relative to unanimity on the attribute or a distribution with less mass at the poles of the distribution (i.e. bimodality).*

Polarization is at its *essence* a relative concept. Much like one cannot define "larger" without reference to something smaller with which to compare, polarization must be conceived relative to something. In order to properly conceptualize polarization, let's first talk about the necessary ingredients for polarization. The minimum necessary components of polarization are 1) an attribute, 2) a population, and 3) a distribution. We start with an attribute. By attribute I merely mean some characteristic (belief, position, identity, etc.) which an individual, institution, organization, or even a population can have. A political issue is thus an attribute. It could be an attribute of policy, of a group, of an individual, of the aggregate electorate. The possibilities are infinite. The Culture War literature has mostly dealt with social issues; however any attribute could potentially be a source of polarization. Foreign policy, government spending, taxes, welfare policies, etc. are all potential issues which can be attributes.

The second condition is a population. At minimum, we must have at least two individuals in order to talk about polarization. While internal conflict is real, it is difficult to be polarized from ones' self. As a consequence, we must have a population in order to talk about polarization. Whether it is two individuals on a desert island or the citizenry of the United States, polarization requires there be at least theoretically more than one position on the attribute.

Third, In order to have polarization, we must have a distribution. There must be a spread of points in relation to the attribute. Polarization suggests poles, and poles by definition must have separation. This observation has an important implication: the absence of polarization is the absence of a distribution. If we imagine a population of, say, 1000 individuals and every one of these individuals prefer exactly X amount of government spending, then there is no polarization of views on the amount of government spending in that population. Hence the ultimate reference point for polarization is its opposite: unanimity. While unanimity in a polity is rare (if it even exists), it provides a theoretical maximum by which we can compare other distributions (contemporaneous or over time) and assess

polarization. We can thus compare multiple distributions in terms of their proximity to this theoretical maximum. Given three distributions, the distribution closest to 'unanimity' is the least polarized distribution.

Political Polarization: From Consensus to Conflict

Political polarization, as conceived here, is a phenomenon dependent on the distributional properties of aggregate political opinion in the American electorate, among groups relevant to political competition, and elite political actors which include government officials and opinion-makers.

Proposition 2: Polarization as a political concept is the relative distribution of opinion in a politically relevant population or between politically relevant groups along either single or multiple issue or partisan dimensions.

When we talk about a "polarized" opinion distribution in a static sense, we are contemplating the distribution of opinion relative to a "theoretical maximum" (DiMaggio, Evans, and Bryson 1996). Polarization as a process that occurs over a time period refers to the change in the distribution of opinion relative to this maximum or some other distribution (say, a previous time period) over some specified period of time (DiMaggio, Evans, and Bryson 1996).

Whether discussing polarization from a dynamic or static disposition, defining a polarized distribution in such an instance requires that we reference another, less polarized, distribution. Figures 3, 4, and 5 illustrate three different kinds of archetypical distributions. Figure 3 illustrates what we might call a 'consensus' or essentially non-polarized distribution where most of the population 'agrees' on that particular policy (if we are assessing the distribution of opinion on a particular policy) and thus exhibits little to no spread along the opinion dimension. Figure 4 illustrates a 'normal' distribution of opinion on a policy where a predominant 'modal' preference on the policy is apparent in the population but substantial disagreement over where policy should be located exists in society and, indeed, the majority of the population have preferences located somewhere along the policy dimension other than

Figure 2: Hypothetical Policy Consensus

--- Policy B distribution of voter ideal points --- Policy A distribution of voter ideal points

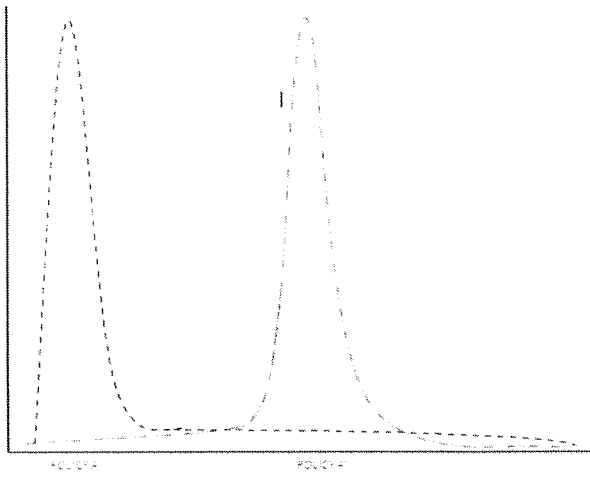


Figure 4: Hypothetical Normal Policy C

--- Distribution of voter ideal points

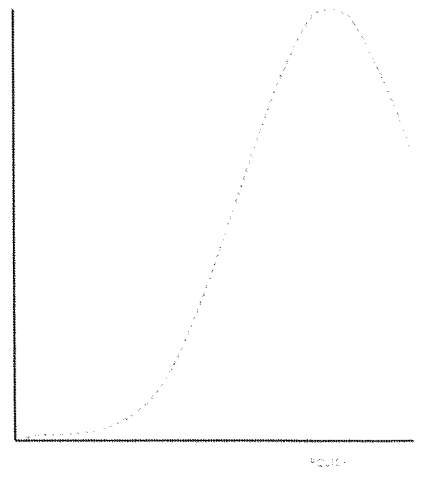


Figure 5: Hypothetical B-Modal Policy Polarization

--- Distribution of voter ideal points

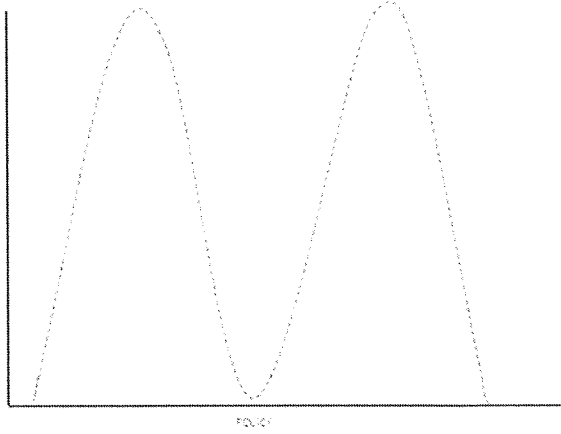
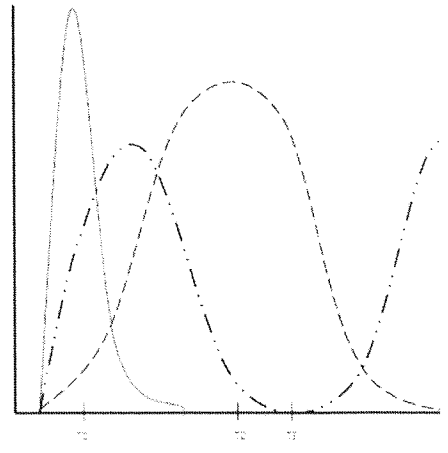


Figure 7: Consensus to Conflict - Inter-Policy competition



at the modal or median position. Figure 5, finally, illustrates a bimodal distribution of policy where the center of the opinion dimension has been vacated and there are two relatively well structured groups of the population that exist some distance from one another on the policy dimension. The fact that the distribution in Figure 3 is less polarized than the distribution in Figure 4 and the distribution in Figure 5 is the most polarized of the distributions is unambiguous. Indeed, the distribution of attitudes can take on an infinite number of different shapes.

In politics, attributes which have a distribution of opinion at unanimity or near unanimity don't lend themselves well to the political process. This is especially so in the United States, where the bar for successful partisan competition set by our first-past-the-post electoral system is set much higher than in proportional systems. There is little reason for a candidate or party to adopt a position in opposition to a unanimous or near unanimous position, as doing so could carry with it a penalty of lost elections and sapped strength in American political institutions. Not coincidentally, individuals and groups with beliefs and positions that run counter to a unanimous or near-unanimous position have difficulty getting access to the policy process. Parties ignore them. And attempts to organize politically independent of established parties and organizations run smack into Duverger and his law.

However, sometimes consensus positions—as a function of exogenous shocks, demographic and population shifts, or merely the vagaries of time—become non-consensus positions in the American electorate. This process of moving from consensus, where most people agree on an issue, to conflict, where a substantial portion of the public disagree on an issue, is at the heart of political polarization. When the political dynamic on an issue changes such that there is a substantial portion of the American public in opposition to the rest of the citizenry, this polarization is ripe for political conflict (see Figure 5). Polarization doesn't necessarily imply political conflict, but it is a necessary condition of it.

Political Polarization Requires Partisan Conflict

Political polarization requires partisan conflict. By partisan I do not mean it in the strict sense of political parties in conflict with one another on some political issue (though that certainly counts), but rather in the more general sense of group conflict. I have defined polarization as a shift of mass in a distribution of opinion in a population or between groups towards the poles (or away from the center) and have defined this in the political context in relation to the absolute maximum of 'unanimity' on some political issue. Polarization occurs when opinion on an issue moves from consensus to non-consensus. Absolute polarization is where we get two masses of the population (or two groups) at the opposite ends of the extreme poles of the continuum of possible positions on an issue. But polarization on some issue is insufficient to produce conflict. It is a necessary but insufficient condition of political conflict.

Proposition 3: In order for polarization to matter, politically speaking, polarization must be galvanized as a partisan issue over which groups and/or parties compete and conflict within the confines of the political environment.

There are a host of issues over which the American electorate is polarized, but which do not influence partisan choices, are not a subject of the policy process, and do not inform opinions on candidates, parties, and the political system. There are strong polarizing divisions in the American public over the Yankees, over the movie Titanic, over the choice of Kris Allen as the next American Idol, but these polarizing topics are not a subject of partisan conflict. Relevant political polarization, or political polarization that we care about, is that which inspires and galvanizes groups to act politically and the American public to choose candidates and affiliate with parties, in part or in whole, as a consequence of where those candidates and parties stand on that issue. Political polarization on social issues thus suggests 1) the American public has shifted from a relative consensus on some social issues to a situation of non-consensus and 2) that the parties and political groups have adopted positions and engaged the policy process on that issue.

MEASURES OF POLITICAL POLARIZATION

Vizzini: "HE DIDN'T FALL? INCONCEIVABLE!"

Inigo Montoya: "You keep using that word. I do not think it means what you think it means."

– *The Princess Bride*

Having thus defined polarization as a concept, we must next move to a formal, empirical definition of polarization that can be tested. These empirical measures need to capture the fundamentals of polarization: distribution, polar location, and group conflict. The dispersion principle is simply that the more dispersed political opinion is in the aggregate, the more difficult it will be for the system to produce centrist / moderate policies. The bimodality principle, or polar location, suggests that to the extent that political opinions coalesce around two distinct poles, the greater the difficulty in producing centrist / moderate policies. The third principle, consolidation, suggests that the degree to which different opinions become more closely associated within groups, then the more intractable political competition is (Blau 1977, 1977; Converse 1964; DiMaggio, Evans, and Bryson 1996).

Dispersion. In order to measure dispersion, we need a measure that both reflects the relative distance that individual respondents differ from one another as well as taking into account the proportion of opinion located in the extremes relative to the center of the distribution. The traditional measure of dispersion (or inequality in the economics literature) is variance (or its cousin, standard deviation). As opinion dimensions become more polarized, variance should increase.

Bimodality. This principle reflects the underlying conceptualization of polarization. The absolute polarized distribution is an extreme bimodal distribution: where exactly 50 percent of the population is located at one extreme and the other 50 percent is located at the other extreme. Again, a bimodal distribution is ripe for political conflict, given the implicit reduction in the probability of centrist policies securing the support of compromising majorities. I will use a group polarization measure to assess the degree of bimodality in the distribution of attributes for both mass and elite populations.

Consolidation. The consolidation measure refers to the relative agreement or consensus within groups and their relative disparity across groups. This “identity group” polarization is measured using a difference of means along issue dimensions between the groups to assess between group differences while we use the variance and kurtosis measures to assess within group consolidation on issue dimensions. This difference of means is captured in the group polarization measure.

Deutsch’s description of Marxian theory on social conflict in society provides an insight into how to conceptualize polarization (Deutsch 1971). As Esteban and Ray argue, the two primary aspects of polarization are identification and alienation. Polarization is characterized by increasing identification with those similar to oneself along some relevant attribute coupled with increasing alienation from those dissimilar to oneself along that same attribute. Stated explicitly, there are three features of polarization identified by Esteban and Ray: 1) there must be a high degree of homogeneity within each group. 2) There must be a high degree of heterogeneity across groups. 3) There must be a small number of significantly sized groups (isolated small groups or individuals are irrelevant) across the attribute dimension (Esteban and Ray 1994). An empirical measure of group polarization must incorporate a measure of group size and a measure of the ‘antagonisms’ or distances from all the other groups for a given policy, issue, or ideological dimension. The measure developed here (GP) incorporates both aspects of polarization.

Equation X: Empirical Measure of Group Polarization

$$\begin{aligned}
 GP = & \sum_{G=1}^m \{n_{G1}(1 - n_{G1})[(\bar{I}_{G1} - \bar{I}_{G2})^2 + (\bar{I}_{G1} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G1} - \bar{I}_{Gm})^2]\} \\
 & + \{n_{G2}(1 - n_{G2})[(\bar{I}_{G2} - \bar{I}_{G1})^2 + (\bar{I}_{G2} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G2} - \bar{I}_{Gm})^2]\} \dots \\
 & + \{n_{Gm}(1 - n_{Gm})[(\bar{I}_{Gm} - \bar{I}_{G1})^2 + (\bar{I}_{Gm} - \bar{I}_{G2})^2 + (\bar{I}_{Gm} - \bar{I}_{G3})^2 \dots + (\bar{I}_{Gm} - \bar{I}_{G1})^2]\}
 \end{aligned}$$

Where:

$\bar{I}_{G1} \dots \bar{I}_{Gm}$ = the average position on I for Groups 1 through M .

$n_{G1} \dots n_{Gm}$ = the proportion for Groups 1 through M .

This measure of group polarization calculates the total distances between the defined groups in a particular policy, issue, or the ideological dimension and weights the summation of those distances by the sizes of the defined groups. This definition is consistent with the theoretical discussion of polarization mentioned above, as the maximal polarization in this measure would involve society dividing itself into two groups with the two groups locating themselves at the extremes of the relevant dimension. As the number of groups increases, necessarily the size of the groups decreases, and thus polarization declines. Also, if the groups move towards each other in the relevant dimension, polarization declines. One asset of this measure is that, even if the number of groups is over-defined (say, we have created four categories of group but, in terms of their relative location, there really is only three groups) it will not affect the group polarization measure. Let's say that Group A and Group B have almost identical positions on the attribute. If that is the case, the relative distance between them approaches zero and correspondingly counts little towards the overall polarization coefficient. Let's consider a hypothetical example:

Table 3: Hypothetical Example of Partisan Polarization on Abortion

PARTY ID	PROPORTION	AVERAGE PARTISAN GROUP POSITION ON ABORTION
Republican	.33	4.33
Independent	.12	3.15
Democrat	.44	1.89

Table shows canned data from a hypothetical sample of the American electorate. The proportions reported are the hypothetical percentages of the party identifiers in the sample. The average position on abortion is on a hypothetical 7 point scale on support for abortion rights. Recall Equation X. Group polarization is equal to the sum of the squared differences between the groups on the relevant dimension weighted by the size of the groups. Here, the average partisan group positions

on abortion are weighted by their proportion in the sample. Recall the equation for the group weights: $n_{Gm}(1 - n_{Gm})$. The group weights for our partisan groups in the hypothetical example are as follows:

Table 4: Group Size Weights for Hypothetical Partisan Groups

Weight Equation	Weight Calculation	Weights
$n_{rep}(1 - n_{rep})$.33 (1-.33)	0.221
$n_{ind}(1 - n_{ind})$.12 (1-.12)	0.106
$n_{dem}(1 - n_{dem})$.44 (1-.44)	0.246

The calculations for the partisan groups result in weights that reflect the size of the groups within the sample population. Thus the distances between Independents and the other partisan groups will not figure as prominently in the polarization calculation as the distances between Republicans or Democrats and the partisan groups, as Independents are the smallest

Table 5: Hypothetical Partisan Individual Group Polarization Scores

FIG Polarization Equation	FIG Polarization Calculation	FIG Polar Score
$RP = W_R [(I_{rep} - I_{dem})^2 + (I_{rep} - I_{ind})^2]$	$0.221[(4.33 - 1.89)^2 + (4.33 - 3.15)^2]$	1.620
$IP = W_I [(I_{ind} - I_{rep})^2 + (I_{ind} - I_{dem})^2]$	$0.106[(3.15 - 4.33)^2 + (3.15 - 1.89)^2]$	0.316
$DP = W_D [(I_{dem} - I_{rep})^2 + (I_{dem} - I_{ind})^2]$	$0.246[(1.89 - 4.33)^2 + (4.33 - 3.15)^2]$	1.807

group in the sample. Likewise, the Democrat distances will have the largest influence on polarization as they are the largest group in the sample, assuming they are sufficiently distant from the other groups. The analytic improvement GP represents is that it accounts for group size and distance at the same time in a composite score for political polarization.

Table 5 shows the distance calculations summed for each partisan group, weighted by the group size. The GP for partisan groups on abortion in our hypothetical example is, summing across the partisan individual group polarization scores, 3.745. The score calculation (1.620 + 0.316 + 1.807 =

3.745) sums the weighted group polarization scores for a single measure of polarization for that dimension. Again, note that the distances for the Independent group count very little towards the partisan polarization score. Small groups contribute little to polarization (if they contribute at all) as they are of an insufficient size in order to generate societal conflict that is likely to have an impact on a national scale. The result is polarization scores for each group and a total polarization score for all groups in the policy, issue, or ideological dimension of interest.

Dynamic and the Static: Polarization vs. Polarized

As is apparent from the above discussion, there are two aspects of polarization, one static and the other dynamic. Polarization as a *process* involves changes in a distribution of an attribute or a meta-distribution of multiple attributes over time. Polarization as a *state* is, as noted in the discussion of Esteban and Ray and Duclos and Esteban's polarization measures, involves the distribution of an attribute or a meta-distribution of multiple attributes relative to an idealized non-polarized state or, to put it another way, a theoretical maximum (Duclos, Esteban, and Ray 2004; Esteban and Ray 1994). Here we might contemplate such a state as 'total consensus' or 'unification' where every member of the population is at an identical point. Hence I would argue that Figure 3 is a non-polarized distribution relative to the distributions in Figures 4, 5, and 6 because it is closer in characteristics of identification and alienation to the total consensus distribution of the population where everyone is located at a single point. Conversely, the distribution in Figure 5 is 'polarized' given it reflects the furthest diversion from that consensus of these distributions and is most illustrative of the bimodality principle.

Dispersion - Polarization

The interpretation of results for the dispersion measures is relatively straightforward. In order to measure dispersion, we need a measure that both reflects the relative distance that individual respondents differ from one another as well as taking into account the proportion of opinion located in the extremes relative to the center of the distribution. Increased dispersion indicates polarization as it

reflects an increase in the distance between individuals and/or groups within society on that issue or attribute. If opinion is highly dispersed, then institutions and actors which seek to compromise on policy related to that opinion may find it difficult or impossible to get the requisite support at the popular level. Conversely, a constrained distribution of opinion (low dispersion) suggests a policy space ripe for compromise and perhaps even consensual politics. The standard deviation is a measure of the dispersion in the data. As such it is a good measure of the degree to which consensus on gay rights attitudes, abortion attitudes, economic issues attitudes, defense policy attitudes, etc. exists at the mass level and how that consensus has changed over time.

Dispersion Measures

The traditional measure of dispersion is variance, or its standardized version: the standard deviation. As opinion dimensions become more polarized, variance (and thus the standard deviation) should increase.

Equation 1: Standard Deviation

$$\sigma = \sqrt{\sum (x - \bar{x})^2 / N - 1}$$

An increase in the standard deviation on an issue indicates that mass public opinion on the issue has become more polarized on that issue. The more dispersed the population, the more likely the issue will produce intractable political conflict rather than centrist / moderate compromise policies. A more dispersed opinion distribution means that, in order to produce a compromise policy, citizens must agree to a change in the status quo that is, on average, further distant from their own ideal point. This increases conformity costs in the creation of public policy on the issues where we observe greater dispersion.

Dispersion Expectations on Issues

- H₀: *No trend in the standard deviation on issues*
- H_a: *A significant decrease in the standard deviation on issues (depolarization).*
- H_a: *A significant increase in the standard deviation on issues (polarization).*

Group Polarization Expectations on Abortion

Partisan Polarization on Abortion

- E_0 : *No observable trend in the proximity of partisan identifiers on the abortion issue.*
 E_a : *A decrease in the distance between partisan identifiers on abortion. (depolarization)*
 E_p : *An increase in the distance between partisan identifiers on abortion. (polarization)*

I examine the trends in polarization using simple and multiple regression models with the polarization measure as the dependent variable and year (or a transformation of year into time periods) as the independent variable. Significant, positive coefficients indicate a trend towards polarization along the issue dimension in the model while negative coefficients show the opposite.

Equation 2: Simple Trend Model of Group Polarization

$$GP = B_0 + B_1(\text{year}) + e$$

No apparent trend in polarization may be inferred from the absence of a significant relationship between the group polarization measure and the year variable. Where the party of the presidential administration (ppa) is a theoretically-grounded explanation of group polarization, I include it as an independent predictor of group polarization. However, none such are included here. This multivariate model is described in Equation 3:

Equation 3: Multivariate Trend Model of Group Polarization

$$GP = B_0 + B_1(\text{year}) + B_2(\text{ppa}) + e$$

Analysis & Measures

Polarization is characterized by increasing identification with those similar to oneself along some relevant attribute coupled with increasing alienation from those dissimilar to oneself along that same attribute. There are thus three features of polarization: 1) there must be a high degree of homogeneity within each group. 2) There must be a high degree of heterogeneity across groups. 3) There must be a small number of significantly sized groups (isolated small groups or individuals are irrelevant) across the attribute dimension (Esteban and Ray 1994). An empirical measure of group polarization thus

incorporates a measure of group size and a measure of the ‘antagonisms’ or distances from all the other groups for a given policy, issue, or ideological dimension. The measure developed here (GP), incorporates both of these key aspects of polarization for the party identification groups.

While the groupings reflected in the party ID group variable are defensible as valid and reliable constructs of the divisions along partisan dimensions, the cut-points established for these groups are somewhat arbitrary. Naturally, if one collapsed categories of these groups it would increase GP overall and, likewise, if one parsed the groups further it would lead to a decrease in GP. However, this concern is mitigated by the fact this analysis examines changes in GP over time. Hence the number of groups remains constant for each survey year. Furthermore, any poor mapping of the groups used onto the actual distribution of mass in the population on these dimensions would work against a finding of polarization, as disparate identifiers on the issue dimension would be included in the wrong groups and thus artificially draw the means of those groupings together. In other words, an inaccurate classification of groups might suggest the absence of polarization when it in fact exists, but would not lead to a finding of a false polarization trend.

Equation 4: Empirical Measure of Weighted Group Polarization on Political Dimensions

$$GP_I = \sum_{G=1}^m \{n_{G1}(1 - n_{G1})[(\bar{I}_{G1} - \bar{I}_{G2})^2 + (\bar{I}_{G1} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G1} - \bar{I}_{Gm})^2]\} \\ + \{n_{G2}(1 - n_{G2})[(\bar{I}_{G2} - \bar{I}_{G1})^2 + (\bar{I}_{G2} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G2} - \bar{I}_{Gm})^2]\} \dots \\ + \{n_{Gm}(1 - n_{Gm})[(\bar{I}_{Gm} - \bar{I}_{G1})^2 + (\bar{I}_{Gm} - \bar{I}_{G2})^2 + (\bar{I}_{Gm} - \bar{I}_{G3})^2 \dots + (\bar{I}_{Gm} - \bar{I}_{G1})^2]\}$$

Where:

- I = a political dimension (issues, partisanship, etc.)
- n_G = a group of individuals associated on a political or social dimension
- $\bar{I}_{G1} \dots \bar{I}_{Gm}$ = the average position on I for Groups 1 through M.
- $n_{G1} \dots n_{Gm}$ = the sample proportion for Groups 1 through M.

This measure of group polarization calculates the total distances between the defined groups on the dimensions of political conflict that I examine here: partisanship. It weights the summation of those distances by the sizes of the defined groups, using the ANES sample proportion for the group categories in each survey year. This definition is consistent with the theoretical development of polarization, as the maximal polarization in this measure would involve society dividing itself into two groups on the G dimension, with the two groups locating themselves at the extremes of the l th dimension. If the groups separate in the l th dimension, then that is evidence of a polarization trend. If the groups move towards each other in the l th dimension, polarization declines. One asset of this measure is that, even if the number of groups is over-defined (say, we have created four categories of group but, in terms of their relative location, there really is only three groups) it will not affect the group polarization trends identified in the analysis. Let's say that Group A and Group B have almost identical positions on ideology. If that is the case, the relative distance between them approaches zero and correspondingly counts little towards the overall polarization coefficient on ideology and would not contribute to an increase or a decrease in the GP measure.

The unweighted group polarization measure simply calculates the squared distances between each of the group on a political dimension irrespective of the size of the group:

Equation 5: Empirical Measure of Unweighted Group Polarization on Political Dimensions

$$\begin{aligned}
 UGP_I = & \sum_{G=1}^m \{[(\bar{I}_{G1} - \bar{I}_{G2})^2 + (\bar{I}_{G1} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G1} - \bar{I}_{Gm})^2]\} \\
 & + \{[(\bar{I}_{G2} - \bar{I}_{G1})^2 + (\bar{I}_{G2} - \bar{I}_{G3})^2 \dots + (\bar{I}_{G2} - \bar{I}_{Gm})^2]\} \dots \\
 & + \{[(\bar{I}_{Gm} - \bar{I}_{G1})^2 + (\bar{I}_{Gm} - \bar{I}_{G2})^2 + (\bar{I}_{Gm} - \bar{I}_{G3})^2 \dots + (\bar{I}_{Gm} - \bar{I}_{G1})^2]\} \dots
 \end{aligned}$$

Where:

- I = a political dimension (issues, partisanship, etc.)
- n_G = a group of individuals associated on a political or social dimension
- $\bar{I}_{G1} \dots \bar{I}_{Gm}$ = the average position on I for Groups 1 through M.

I turn my attention now to the structure of polarization by examining polarization at the group level, which I have already developed theoretically. The proximity of individuals to one another along a relevant political dimension encourages *identification* with those who see the political world the same way that you do. Secondly, a substantial distance between you and those you identify with relative to another group of citizens results in *alienation* from that other group and can lead to social conflict. The greater the distance between groups, the more intense is alienation and the higher the probability of greater conflict between the groups in politics. Parties are a natural vehicle for social conflict between groups, and they are a natural source of identification and alienation in politics themselves (i.e. serving as political groups). If the parties become more ideological coherent (increasing identification) and separate on the ideological dimension (increasing alienation), then the obvious implication is greater political conflict and a decreasing available space for political compromise. Similarly, if the parties become more consistent on social issues and move away from each other in terms of average positions on the cultural issues, then the consequence would be a partisan culture 'war.'

I will examine political polarization, here, on abortion. This analysis will show that significant partisan polarization has occurred on abortion at both the mass and elite levels. At both levels on abortion, Republicans have moved in a pro-life direction on the abortion scale and Democrats have become increasingly pro-choice.

In some respects, the debate over the culture wars reduces to the debate over the importance of abortion in American politics. The 1973 USSC decision in *Roe v. Wade* is widely seen as a catalyst for Christian political activism, and particularly within the Republican Party (Layman 2001, 1996, 1999). Every Republican presidential nominee since 1973 has been either staunchly Pro-Life or adopted the Pro-Life position in order to secure the nomination. And it is likewise for Democrats and a strong Pro-Choice position. Whatever the substantive effect on partisan politics, the party platforms have had

widely disparate positions on abortion since *Roe*. While these points of fact suggest abortion is an important political issue for the political parties and that it could be a potential point of cleavage and polarization, they do not constitute evidence in and of themselves. For that, we need a systematic assessment of the positions of the parties on abortion and the relative distance between the parties on that issue dimension. The group polarization measure of the partisan groups on abortion accomplishes exactly that.

The evidence presented here on group polarization speaks to two fundamental sets of questions on political polarization and the culture wars: 1) Is there partisan polarization? Are the parties divergent and to what extent are the divergent on abortion? What is the trend in partisan polarization—are the partisan groups increasingly ideologically coherent? 2) Have the parties polarized on social issues? Is there a polarization trend and if so to what extent have partisan groups contributed to polarization on the social dimension?

Data

The data for this analysis are culled from the American National Election Study (ANES) cumulative file.² I use the ANES studies from 1970-2004.³ The creation of the data set for analysis of polarization trends for the mass public is a two-step process. In the first step, univariate statistics are generated on the substantive variables from the ANES cumulative file. Specifically, the means and frequencies for the variables were output. The second step involves creating a time-series data set with the means and frequencies for the relevant ANES variables *for each group or category in the*

² The Cumulative Data File consists of variables derived from the 1948-2004 series of biennial ("time-series") SRC/CPS National Election Studies. The American National Election Studies / Time Series Studies are collected before and after presidential (pre and post surveys) elections. The off-year elections typically only have a post-election study. The ANES Cumulative Data File is a merged data set of all the time series studies from 1948-2004. The pooled data includes variables which appear in three or more studies and consists of 44,715 cases.

³ The data is sub-setted by year to include only studies from 1970-2004 as the previous data sets had few to none of the relevant substantive variables which are necessary for the polarization analysis. Furthermore, 1970-2004 covers the relevant time period to examine the culture wars thesis.

identification variable from the ANES and these are treated as individual variables themselves in the new data set. For example, let's consider the party identification variable as a group identification variable and ideology as our 'issue' dimension variable. The party ID variable has three categories: Republicans, Independents, and Democrats. The first step involves generating the means and frequencies for ideology for each of the categories in each of the study years. In the second step, a data set is created where there are three ideology variables that reflect the mean position on ideology for respondents within each of the party ID categories. A time series data set was created that contains mean and frequency variables for all of the variables relevant to the polarization analysis.

Variables

As mentioned above, there are two 'types' of variables used in this analysis. The first type is a group-identification variable: an ordinal classification of the population along some relevant dimension. The group identification variable for this analysis is party identification. The party ID variable used for classification is a three-category variable that collapses strong partisans, weak partisan identifiers, and independent leaners all into an aggregate 'party' category. So, for example, "Republicans" in this variable are respondents who either identified themselves as strong Republicans, weak Republicans, or Independents who lean towards the Republican Party.

The political dimension variable is opinion on abortion. Respondents to the ANES were asked when abortion should be allowed and given the following options from the beginning of the time series up through 1980 of 1) asserting abortion should never be permitted, 2) asserting abortion should be forbidden except where the life or health of the woman is in danger, 3) asserting abortion should be permitted for personal reasons (such as difficulty carrying the child) and 4) asserting abortion should never be forbidden as no woman should have to carry a child to term she does not want. In 1980 there was a substantial change in the language of the abortion question with more emphasis put on what the respondent thought the law should be on abortion. All four of the options begin with some variation of

“by law” and the options were substantially changed in the two middle categories. In option number 2, now the health option was omitted and rather the respondent was asked to indicate whether they would make legal exceptions to an absolute ban on abortion for rape, incest, and the life of the mother. In option number 3, respondents were asked if they would further expand the number of allowable justifications for an abortion under the law beyond the exceptions delineated in option number 2 but where “a need for the abortion has been clearly established.” The first option (never any abortions) was not substantially altered and only a minor change to the 4th option was made, using the language of “personal choice” rather than a child the woman “does not want.” While there is good reason to believe these substantive changes in the abortion question had a substantive impact on the distribution of abortion (Mouw and Sobel 2001), it affects only three of the survey years in the analysis (and one of those is omitted in the contribution analysis). Where a year from this period was a significant regression outlier (3 or more standard deviations), it was omitted from the analysis.

Data Presentation Organization

To depict the trend in polarization, I report the calculated polarization score for each survey year and provide illustrations of the variance in the group polarization measure over time. Three types of tables are used to demonstrate group polarization in this analysis. The first type of table is a *decomposition* table, which shows the calculated group polarization measure broken down by each grouping or classification’s contribution to the overall group polarization measure. Consider partisan polarization on abortion. The decomposition table would show the individual contributions of Republicans, Independents, and Democrats to the total group polarization score for each year in the time series. If you look at the decomposition for, say, 1986, the Republican score will be the Republican identifiers’ squared distances on abortion from each of the other party id classifications (Democrats and Independents). The last column is the group polarization score for the classification variable (party

identification in this case), which sums each of the polarization scores for all of the other classifications (see Equation 4).

The second type of table is a *contribution* table. The contribution table reports the percent contribution for each of the individual categories in the classification variable to the group polarization score. So if, say, the Republican squared distances on abortion compose 44% of the summed squared distances for all the categories in 1986, then the table will report a 44% for Republicans in that year. Each percent contribution column is paired with a mean deviation column for each of the categories for the classification variable used for the group polarization score. Say that the mean percent contribution for Republicans on partisan polarization on abortion for the full time series is 40%. Thus the mean deviation for Republicans in 1986 would be 4.000. If the percent contribution falls below the mean, then the mean deviation will be negative (if the percent contribution for Republicans had been 36 rather than 44, then the mean deviation for Republicans in 1986 would have been -4.000).

I include the weighted and the unweighted group polarization score. The weighted score is the group polarization measure defined in. This weights the distances of group I to groups N through groups M based on the size of group I. Again, group size is an essential component of the total conflict in society with a political dimension. Small groups may be extreme relative to other groups, but their capacity to contribute to societal conflict is limited both as a consequence of the 'threat' posed by such a group to others in society and also given majoritarian, democratic institutions and electoral systems that discriminate against small groups in making policy and translating votes to seats in the government. That said, the trends in the movement of groups on a political dimension relative to the other groups irrespective of size are an important aspect of polarization. How extreme the Republicans have become relative to Independents and Democrats, regardless of how many Republican identifiers there are, is a significant factor in political conflict given that these are mass, aggregate parties to begin with.

Trends in group distances are of intrinsic interest. Furthermore, while group size conditions political conflict, it must also be noted that the perceived 'threat' of opposing groups may not be sensitive to small changes in the size of a group. The group polarization measure I have developed assumes that the effect of group size on conflict is continuous and linear. However, the latent relationship between group size and conflict may be ordinal and/or nonlinear. Given this, I include the unweighted group polarization as a separate contribution table and I include trend regressions for both weighted and unweighted group polarization. The unweighted contribution table includes the percent contribution of a category (Republicans) to the total unweighted group polarization score, which is simply the sum of the squared distances on that particular political dimension (partisan). Thus the unweighted percent contribution for Republicans is a pure distance measure for that group relative to all other partisan groups on the political dimension.

The third table type is a regression table, reporting the model statistics for the trend models on group polarization and the trend models on the mean deviation of the percent contribution of each category in the classification variable to the group polarization score. The first regression assesses whether total group polarization has occurred, and whether each group has become polarized relative to the other groups. The second tests whether a trend has occurred in the percent contribution of the group to the total group polarization score for both weighted and unweighted group polarization. So each analysis of groups on partisanship includes a decomposition table of group polarization on the partisan dimension, a table of regressions for each category as well as group polarization for the full classification variable (showing the trend in polarization for, say, party ID and the polarization of each party identification group: the Republican regression would assess whether Republicans have increasingly polarized on the abortion dimension relative to the other groups), two contribution tables (weighted and unweighted) including the percent contribution to polarization for each category and the mean deviation for each category in each year of the analysis, and a table of the regressions for the

weighted and unweighted group polarization measures showing the trend in the mean deviation in the contribution of each group to the group polarization score over the time series.

PARTISAN POLARIZATION ON ABORTION

The abortion issue is the *sine qua non* of the culture wars. Increasing partisan polarization on the abortion issue would be further evidence that the parties are increasingly motivated on the social issue dimension and that public debate on social issues and the public policy process is increasingly structured by partisan competition. I report the group polarization measure for partisanship on the abortion issue along with the decomposition of the measure into party ID categories in Table 2.

Table 6 shows significant partisan polarization on the abortion issue, mostly due to the polarization of Republicans and Democrats on the issue. In 1972, there was little to no abortion polarization (0.015). By 1990, each of the individual category contributions to polarization on abortion by the Republicans and Democrats would exceed the total polarization on abortion in

TABLE 6: PARTY ID – DECOMPOSITION OF PARTISAN GROUP POLARIZATION ON ABORTION, 1972-2004

YEAR	Republican GP	Independent GP	Democrat GP	GP _{ID}
1972	0.00760	0.00135	0.00638	0.01533
1974	0.00491	0.00165	0.00759	0.01415
1976	0.00221	0.00195	0.00880	0.01296
1978	0.00556	0.00101	0.00991	0.01648
1980	0.00378	0.00361	0.01543	0.02282
1982	0.00338	0.00077	0.00923	0.01337
1984	0.00743	0.00340	0.02230	0.03313
1986	0.00750	0.00374	0.00671	0.01795
1988	0.00664	0.00224	0.00382	0.01270
1990	0.02136	0.01513	0.04978	0.08627
1992	0.05765	0.00804	0.04273	0.10842
1994	0.03484	0.00343	0.04133	0.07961
1996	0.04417	0.00481	0.07744	0.12642
1998	0.07268	0.00754	0.08076	0.16098
2000	0.05157	0.01032	0.10698	0.16887
2002	0.07762	0.01016	0.11564	0.20342
2004	0.10367	0.01000	0.12430	0.23796

1972. Furthermore, the maximum polarization contribution for Republicans (0.104) and Democrats (0.124) is the last year in the time series, 2004. This suggests that not only has polarization on abortion significantly increased over the course of the time series, but that partisan polarization on abortion is an ongoing contemporary phenomenon.

Figure 8 plots the total partisan polarization from 1972 to 2004. Partisan polarization throughout the 1970's and well in to the 1980's was relatively flat. From 1988 to 1990, however, there is a substantial spike in partisan polarization on abortion. Abortion polarization goes from 0.012 to 0.086—over a 700% increase in partisan polarization—in these two years. Note that this time period synchs up well with the culture wars thesis. Except for 1994, which witnessed a slight dip in partisan polarization on abortion, from 1988 forward partisan polarization has monotonically increased biannually until the end of the time series in 2004. Hence, the global maximum for partisan polarization on abortion is in 2004 (0.238). Interestingly, while we might have expected partisan polarization to stall-out given the return of foreign policy to prominence as one of the major political fault line in American politics, the increase in partisan polarization during the first decade of the 21st century is comparable with the partisan polarization from the 1990's. Since the 1970's there has been a dramatic increase in partisan polarization on abortion.

The decomposition of partisan polarization by party identification category is reported in Figure 9. The dramatic increase in partisan polarization on abortion is apparent, with the two major parties as the biggest contributors to partisan polarization. A particularly interesting finding in the decomposition figure is the fact that it is not the case that Republicans and Democrats were the two biggest contributors to partisan polarization since the 1970's. Up until 1988, during the low-polarization period, it was sometimes the case that the Independents outstripped either the Republicans or Democrats in contribution to partisan polarization.

FIGURE 8: PARTY ID GROUP POLARIZATION ON ABORTION OVER TIME, 1972-2004

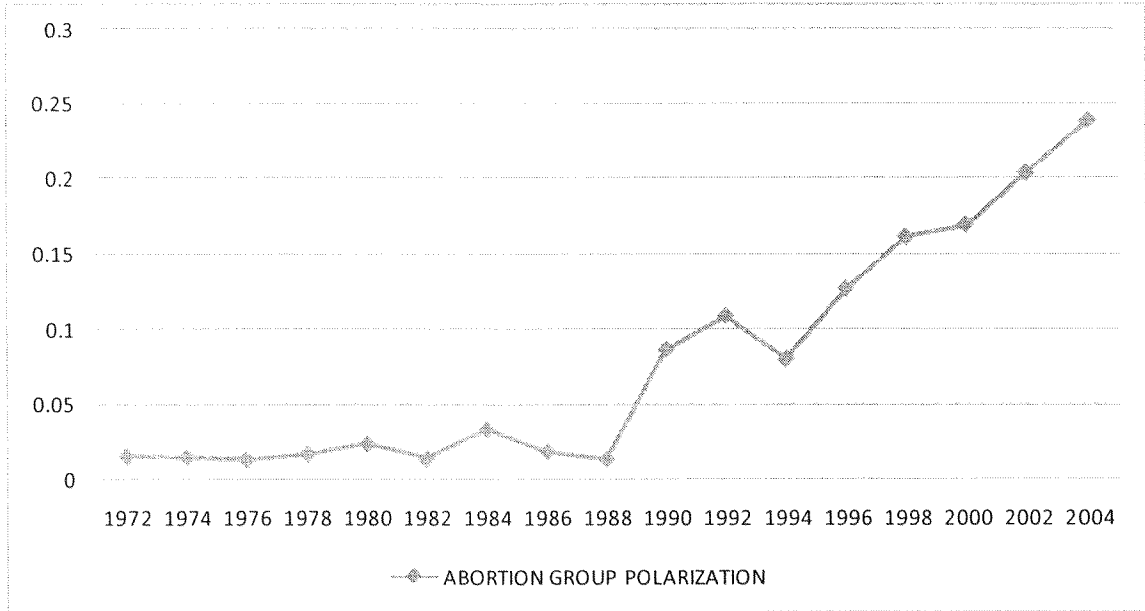
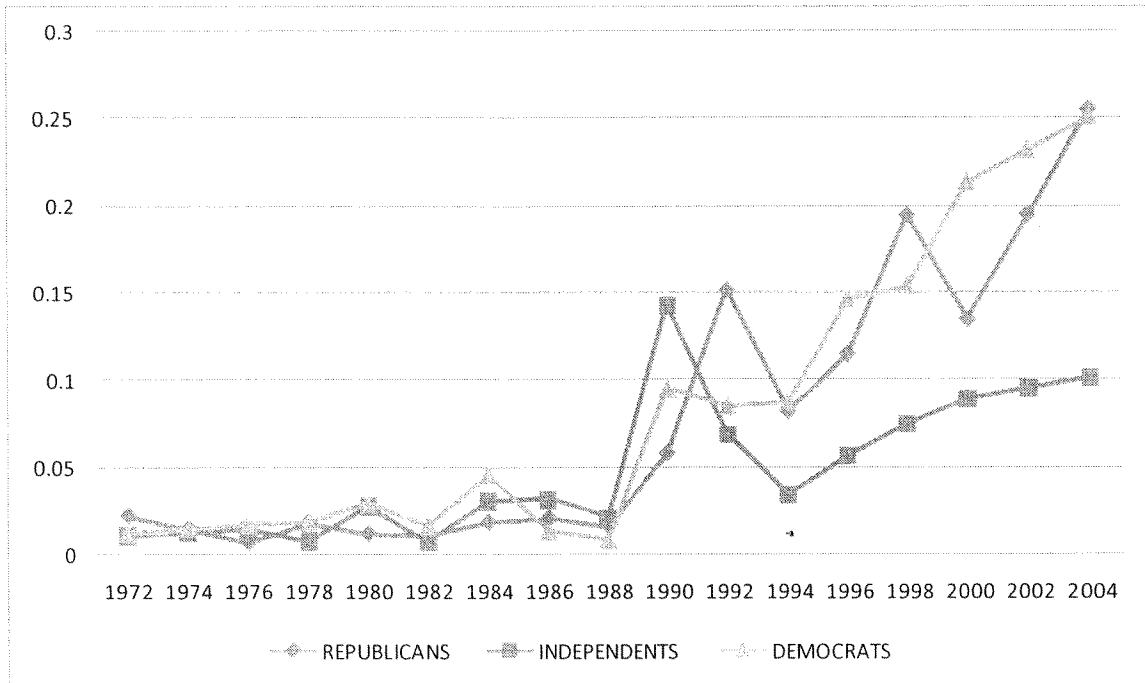


FIGURE 9: DECOMPOSITION OF PARTISAN GROUP POLARIZATION ON ABORTION OVER TIME, 1972-2004



Indeed, in 1980, 1984, 1986, and 1988, the Independents were larger contributors to partisan polarization than the Republicans. In 1988, though it is a low polarization survey year, the Independents were the largest contributors to partisan polarization on abortion. This leads us to 1990, the most unusual data point in the entire series, perhaps in all of the polarization analyses. 1990 not only witnessed a dramatic increase in partisan polarization across the board, but it was the Independents that were responsible for the largest contribution to this polarization. While interesting, there is no obvious reason this would be the case. However, this was in the wake of the 1989 *Webster* decision, which might have been one flash point for partisan polarization on abortion. After 1990, partisan polarization exhibits trends in the expected direction. By 1992, the 'normal' order, with Republicans and Democrats the two primary contributors to partisan polarization, had reasserted itself.

Table 7 reports the decomposition and total partisan polarization trend models for abortion from 1972 to 2004. There is strong evidence of partisan polarization overall ($R^2 = .807$) with an average increase of 0.007 in polarization on abortion for every survey year. The Republican and Democrat identifiers have identical parameter estimates and standard errors, though the Democratic model explains slightly more of the variation in partisan polarization ($R^2 = .784$) over the Republican model ($R^2 = .745$). Independents contribute to the trend in increasing partisan polarization, but not as much as the two major parties (0.001). The overall fit is not nearly as good, explaining less than 50% of the variance in the dependent variable ($R^2 = .455$).

As I noted earlier, the trend in partisan polarization for the individual partisan categories reflects a separation of the two major political parties that began in 1990 and has steadily advanced through to 2004. The percent contributions of each partisan category for the weighted and unweighted group polarization measure can be found in Tables 8 and 9. The maximum contribution for Republicans was 52% in 1988 for the weighted polarization measure. The unweighted maximum for

TABLE 7: TREND REGRESSIONS OF PARTY ID GROUP POLARIZATION ON ABORTION, 1972-2004

MODEL: GP(I) = B ₀ + B ₁ (YEAR) + E	Trend:		Intercept (S.E.)	Parameter Estimate (S.E.)	R ²	N
	Polarization Y/N					
Republican Identifiers	Y		-5.648 (0.922)	0.003 *** (0.001)	.745	15
Independent Identifiers	Y		-0.590 (0.181)	0.001 *** (0.000)	.455	15
Democrat Identifiers	Y		-7.383 (1.080)	0.003 *** (0.001)	.784	15
Party ID Group Polarization	Y		-13.621 (1.857)	0.007 *** (0.001)	.807	15

Republicans was in 1992, where Republicans accounted for just below 50% of the percent contribution to partisan polarization on abortion. The low point came on the weighted contribution was, unsurprisingly, in 1976. Not only was this prior to the Christian Right's significant post-Roe movement to influence the Republican Party, but it was also the first post-Watergate presidential election year (Carter), depressing the number of Republican identifiers in the sample. That said, the weighted measure downgrades the Independent category contribution much more significantly in 1976 than for the Republicans, cutting their contribution by two thirds relative to the unweighted Independent contribution. What little partisan polarization there was in the 1970's is mostly attributable to the Democrats, again, given their size within the population. The maximum and near maximum contributions for the Democratic identifiers come in 1976, 1980, and 1982 respectively. The Democrats averaged about 68% of the contribution to partisan polarization for those years. As is the case with partisan polarization on the ideological dimension (Gooch 2009), weighting the partisan polarization measure on abortion substantially affects the contribution of Independents to polarization. In Table 8, the contribution of Independents to polarization, while sometimes eclipsing one of the major parties, is

TABLE 8: PERCENT CONTRIBUTION & MEAN DEVIATION WEIGHTED PARTISAN G.P. ON ABORTION, 1974-2004

YEAR	REP	R-DEV	IND	I-DEV	DEM	D-DEV
1974	34.68%	-1.05%	11.65%	1.95%	53.66%	-1.05%
1976	17.05%	-18.68%	15.05%	5.34%	67.90%	-18.68%
1978	33.74%	-1.99%	6.13%	-3.57%	60.13%	-1.99%
1980	16.56%	-19.17%	15.84%	6.13%	67.62%	-19.17%
1982	25.28%	-10.45%	5.74%	-3.97%	69.04%	-10.45%
1984	22.43%	-13.30%	10.27%	0.56%	67.31%	-13.30%
1986	41.78%	6.05%	20.82%	11.12%	37.38%	6.05%
1988	52.28%	16.55%	17.62%	7.92%	30.08%	16.55%
1990	24.76%	-10.97%	17.54%	7.84%	57.70%	-10.97%
1992	53.17%	17.44%	7.42%	-2.29%	39.41%	17.44%
1994	43.76%	8.03%	4.31%	-5.39%	51.92%	8.03%
1996	34.94%	-0.79%	3.80%	-5.90%	61.26%	-0.79%
1998	45.15%	9.42%	4.68%	-5.02%	50.17%	9.42%
2000	30.54%	-5.19%	6.11%	-3.59%	63.35%	-5.19%
2002	38.16%	2.43%	5.00%	-4.71%	56.85%	2.43%
2004	43.57%	7.84%	4.20%	-5.50%	52.24%	7.84%

TABLE 9: PERCENT CONTRIBUTION & MEAN DEVIATION UNWEIGHTED PARTISAN G.P. ON ABORTION, 1974-2004

YEAR	REP	R-DEV	IND	I-DEV	DEM	D-DEV
1974	35.05%	0.92%	29.17%	1.43%	35.78%	-2.35%
1976	17.47%	-16.65%	36.83%	9.09%	45.70%	7.56%
1978	41.67%	7.54%	16.67%	-11.07%	41.67%	3.53%
1980	16.72%	-17.41%	40.53%	12.80%	42.75%	4.61%
1982	30.95%	-3.17%	20.24%	-7.50%	48.81%	10.67%
1984	19.51%	-14.61%	32.17%	4.44%	48.31%	10.17%
1986	31.44%	-2.68%	48.62%	20.88%	19.94%	-18.20%
1988	35.71%	1.59%	46.43%	18.69%	17.86%	-20.28%
1990	19.55%	-14.57%	48.34%	20.61%	32.10%	-6.04%
1992	49.71%	15.58%	22.44%	-5.29%	27.85%	-10.29%
1994	40.35%	6.23%	16.73%	-11.00%	42.91%	4.77%
1996	36.10%	1.97%	17.72%	-10.02%	46.19%	8.05%
1998	46.00%	11.88%	17.62%	-10.11%	36.38%	-1.76%
2000	30.76%	-3.36%	20.36%	-7.38%	48.88%	10.74%
2002	37.32%	3.19%	18.21%	-9.52%	44.47%	6.33%
2004	42.03%	7.91%	16.67%	-11.06%	41.29%	3.15%

never the top categorical contributor to partisan polarization. This is not true of the unweighted contribution of Independents (Table 9). From 1986 to 1990, the Independent category accounted for nearly half of the partisan polarization on abortion.

I estimate linear trend models for the mean deviation in the percent contribution of each partisan category to the polarization on abortion (Table 10). In assessing the linear polarization trends, I omit the 1972 data point for both empirical and theoretical reasons. Empirically, the 1972 polarization data point was an unusual outlier. While one should be cautious in eliminating data points, there is good reason to exclude the 1972 data on abortion. Slope estimates of small-N regressions are particularly susceptible to the influence of outliers. The ANES used a split-sample in 1972, and as such the abortion question was asked of only half of the 1972 sample. Further sub-setting the data by partisanship may have resulted in unrepresentative estimates of the partisan positions on abortion. Theoretically, 1972 preceded the 1973 *Roe v. Wade* US Supreme Court decision that sparked the cultural battle over abortion. By excluding 1972, the trend depicts the percent contribution for the categories (mean deviation) to abortion polarization since that landmark decision.

For the weighted polarization measures, the linear models reveal interesting trends in the contribution of Republican identifiers to the abortion issue. There is a statistically significant positive coefficient for the Republican model, indicating that Republican contribution to abortion polarization has increased since the 1970's. For every survey year, there is a 0.596 increase in the percent contribution for Republicans to abortion polarization. This model accounts for about 25% of the variation in percent contribution for the time series. While Republican identification has increased since the 1970's, this trend is not exclusively a consequence of that fact. Republican contribution to the abortion polarization measure increased in the unweighted model as well (0.504). Interestingly Democrats, when I account for their declining adherents since the 1970's up until 2004, evidence no

significant trend in their contribution to abortion polarization. This is also the case when it comes to the unweighted model ($R^2 = .003$). Substantively speaking and ignoring the lack of statistical significance for the Democratic coefficient, there is clearly a much smaller increase in magnitude when compared to that of Republicans. It seems clear that Republicans have contributed more to abortion polarization than Democrats have since the 1970's. Irrespective of whether we weight the groups by size, Republicans evidence a significant increasing contribution to abortion polarization while the Democrats do not. Those who suggest that Republicans were 'captured' by the Christian Right may have exaggerated their case, but clearly the influence of conservative religious citizens increasingly identifying

TABLE 10: WEIGHTED & UNWEIGHTED MEAN DEVIATION TREND REGRESSIONS OF PID GP ON ABORTION, 1974-2004

MODEL: GPMID(PID) = $B_0 + B_1(\text{YEAR}) + B_2(\text{PPA}) + E$	Intercept (R.S.E.)	YEAR P.E. (R.S.E.)	R^2	N
WEIGHTED GROUP POLARIZATION				
Republican Identifiers	-1186.546 (414.440)	0.596 *** (0.208)	.244	16
Independent Identifiers	.623.886 (278.130)	-0.314 ** (0.140)	.264	16
Democrat Identifiers	562.967 (381.646)	-0.283 (0.192)	.005	16
UNWEIGHTED GROUP POLARIZATION				
Republican Identifiers	-1003.165 (439.957)	0.504 ** (0.221)	.219	16
Independent Identifiers	1121.281 (400.694)	-0.564 *** (0.201)	.190	16
Democrat Identifiers	-118.116 (547.511)	0.060 (0.157)	.003	16

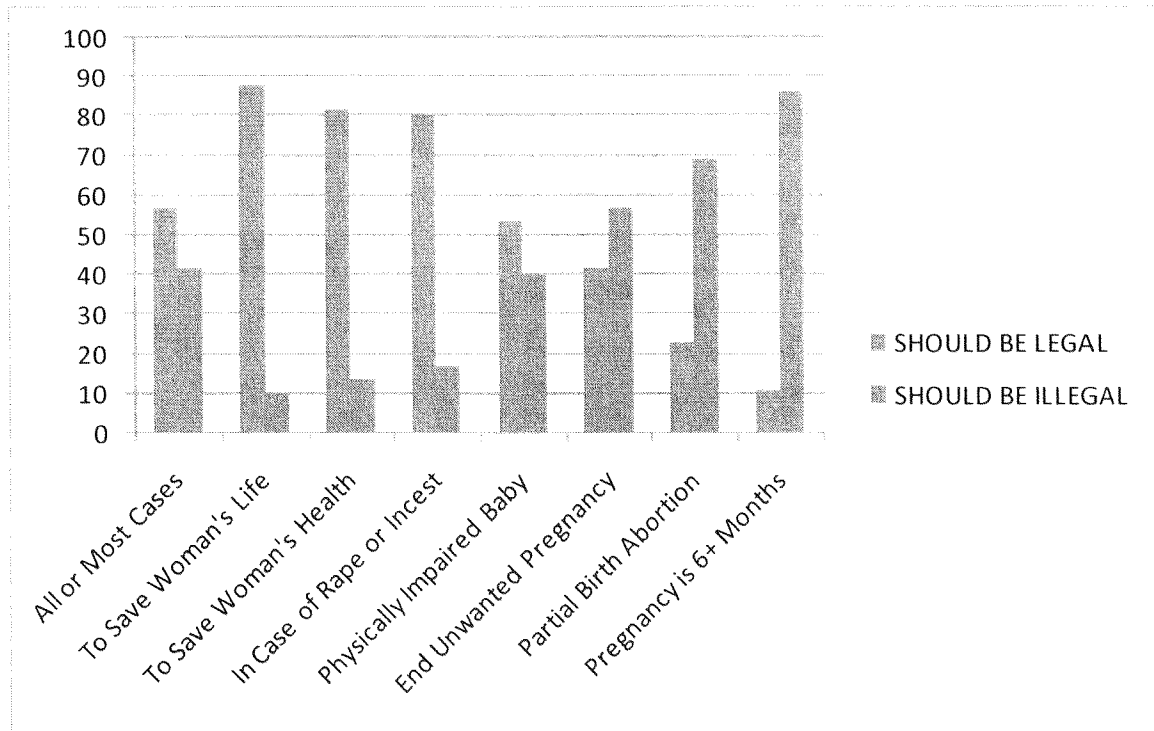
with and influencing the Republican Party has had an effect on their collective position on abortion. For Independents, they have contributed less to abortion polarization since the 1970's in both the weighted (-0.314) and unweighted regression (-0.564) models. Recall that Independents were significant contributors to abortion polarization in the late 1980's and early 1990's but after 1992 there is a sharp decline in the contribution of Independents, and this trend remains constant through 2004. The regression coefficients for Independents in Table 10 capture this change. The weighed model explains just over 25% of the variation in percent contribution, while the unweighted model accounts for 22% of the change in the Independent contribution to abortion polarization.

AN EXAMPLE OF PARTISAN POLARIZATION ON ABORTION AND PUBLIC POLICY: THE PBA BAN

Unlike with ideology, there are no relatively objective measures of the policy outputs for Congress on abortion or the abortion policy positions for congresspersons for the full time series. Later, I will use interest group ratings (NARAL) to serve as a proxy for abortion positions for congress. Here I will look at a suggestive example of the partisan polarization on abortion and the effect this has had on abortion public policy. One such suggestive example is partial birth abortion, a highly controversial abortion procedure that exists at the extremes of abortion debate in the United States.

In 2003, an ABC News opinion poll attempted to assess the nature of abortion opinion across a range of possible situations where a woman might seek an abortion (Figure 10). It included the normal abortion 'exceptions' of life, health, rape, and incest, but it also included newer abortion issues such as abortions of physically impaired babies and partial birth abortion. Partial birth abortion is an abortion procedure involving a partial delivery of the fetus in order to complete the abortion, hence the term. It has been highly controversial since it became a target of the abortion debate, with the Partial Birth Abortion Ban Act of 2005 having termed the procedure "gruesome and inhumane." Whatever the

FIGURE 10: 2003 ABC NEWS OPINION POLL - PUBLIC OPINION ON ABORTION BY SITUATION⁴



merits of the argument, as the 2003 ABC News poll illustrates, the American public is aligned in near-consensus against it. Nearly 70% of respondents to the poll (69%) said they believed the procedure should be illegal. Only 21% reported that it should be legal. While the public has long been opposed to abortions in “unwanted child” situations, that position is relatively conflictual, with over 55% of the public aligned in opposition but 41% of the public in favor of permitting abortions in that situation. That is an over 10% difference on the ‘opposed’ side and an over 20% difference between respondents who believe partial birth abortion should be legal and those who support the legality of ending unwanted pregnancies.

In a depolarized, non-culture war political environment, we would not anticipate a great deal of controversy associated with the PBA ban. With the public solidly behind the ban, a major controversy over its enactment should be unlikely in a non-partisan, depolarized abortion issue dimension. As Table

⁴ ABC News Poll conducted from January 16th to January 20th, 2003. N = 1,133 adult sample with a +/- 3 point margin of error. Respondents were presented with several situations where an abortion decision could be made, and asked whether they thought abortion “should be illegal” or “should be legal” in those situations.

TABLE 11: 2005 CONGRESSIONAL VOTES ON PARTIAL BIRTH ABORTION BAN ACT⁵

Caucus Position	For PBA Ban	Caucus %	Against PBA Ban	Caucus %
HOUSE				
Republicans	218	98.21%	4	1.80%
Democrats	63	31.34%	138	68.66%
SENATE				
Republicans	47	94.00%	3	6.38%
Democrats	17	35.42%	31	64.58%

11 illustrates, however, this is not the case. The table gives the partisan breakdown and caucus percentage for the 2005 vote on the Partial Birth Abortion Ban Act. It was voted on in both the House and the Senate, with the Harkin Amendment the only substantive difference between the two bills. The Harkin Amendment expressed support for *Roe v. Wade* (which also enjoys majority support). That amendment was eliminated in conference. That in itself is suggestive of elite partisan polarization on abortion, as Republicans rejected a Democratic amendment which might have induced more bipartisan support for the bill.

The vote illustrates clearly that even on a bill which reflects a strong, consensus position for the American people, the behavior of Republicans and Democrats in Congress reflects the evidence of strong polarization on the issue between their constituencies that I have demonstrated. In the House 98% of Republicans supported the ban and 94% in the Senate did likewise. While this outstrips the level of public opposition, at least as was evident in the ABC poll from two years prior, it is fair to say that 100% of rational congresspersons should follow where 70% of the American public leads. However, that is not the case with the Democrats. Strong majorities of the Democratic caucuses in both the House and the Senate opposed the ban. While the Democratic caucus was certainly more split than the

⁵ Data culled from reports on House Roll Call No. 530 and Senate Roll Call No. 402. Twelve House members and two senators did not participate in the vote, and are excluded from the calculation of caucus percentage.

Republicans (with over 30% defections in both houses), the fact over 65% of all the Democrats in Congress voted against the ban is a testament to extent of partisan polarization on Abortion. While some might attribute this to the influence of pro-choice interest groups such as NARAL, the evidence suggests a more electorally-plausible, constituent-centered explanation. Democrats opposed the ban because their constituents tilt strongly towards the Pro-Choice position. Republicans likewise on pro-life issues, though in this case they also had a majority of the public to rely upon in justifying their votes. While one shouldn't go too far in over-interpreting a single vote from Congress or a single poll of the public on partial birth abortion, the vote and the poll are consistent with partisan polarization on abortion and consistent with representatives to Congress responding to that polarization in the policy process. One way to think about it is to do so in terms of a counterfactual: how does this abortion vote comport with what we could reasonably expect if the Republicans and Democrats in Congress were responding to the 'average' voter and the strong consensus in the public against partial birth abortion or is it inconsistent with it? I would argue we would expect a near consensus on a partial birth abortion ban in the absence of partisan polarization on abortion. Since the parties in the mass public have diverged on abortion, we see this reflected in the partisan polarization on the PBA vote.

I present what I believe to be compelling evidence of significant partisan polarization in public attitudes on the abortion dimension. While the 1970's and most of the 1980's exhibited little partisan polarization on abortion—with the contribution of both parties to polarization sometimes eclipsed by that of Independents—this all changes in the latter half of the 1980's. From 1988 forward, I find a substantial increase in partisan polarization on abortion that increases nearly monotonically until the end of the time series in 2004. Both Republican and Democratic identifiers were strong contributors to this polarization trend, though Republicans outstripped Democrats in percent contribution to abortion polarization in both the weighted and unweighted group polarization trend models. The case of the Partial Birth Abortion Ban Act of 2005 suggests this polarization at the level of the mass electorate has

translated into polarized partisan behavior in Congress. Despite a consensus in the American public against partial birth abortion, over 65% of Democrats in both houses voted against the ban.

Abortion and the Mass / Elite Nexus: Mass → Elite vs. Elite → Mass Polarization

So far I have demonstrated strong evidence of an apparent polarization of attitudes at the mass level, and we have anecdotal evidence of polarized behavior in Congress. Next, I tie that partisan polarization on abortion at the mass electorate level directly to the voting behavior of members of Congress, a part of the American political elite, using NARAL interest group scores as a proxy for positions on abortion at the elite (elected official) level. The relationship between partisan polarization on abortion at the mass level and partisan polarization level is strong.

In order to assess the theoretical problem of mass vs. elite causation (i.e. which is the chicken and which is the egg) I use two lagged independent variables (1 period lag & 2 period lag) of mass and elite average positions on abortion. Thus three possible causal relationships are employed testing both mass → elite and elite → mass polarization. The first model sans lagged variables tests whether there is a simultaneous relationship between mass abortion attitudes and elite abortion attitudes. If mass and elite abortion attitudes are both predictive in the same year, then I conclude this is evidence supporting the recursive model of mass and elite polarization. Indeed, the recursive model is supported, even if we find lagged effects, when there is significant within-year causation between mass and elite abortion attitudes. If lagged mass abortion attitude (1 or 2 periods) predicts elite mass abortion attitude, then the mass → elite model is supported. If, however, lagged elite abortion attitude (1 or 2 periods) predicts mass abortion attitude, then the elite → mass model finds support. In other words, if the mass or elite abortion attitudes from 1978 predict the mass or elite abortion attitudes from 1980-81 or 1982-83, then we have a strong temporal basis for pointing the causal arrow in one direction or the other.

Equations 6 – 10 set up the regression analysis of mass abortion attitudes, as measured by the group polarization measure on abortion, and elite abortion attitudes, as measured by NARAL interest group scores. Because this is a small-n regression analysis, I use robust standard errors to adjust for violations of normality in the underlying distribution of the variables.

Equations 6-10: Models for Mass → Elite & Elite → Mass Causation

$$IDEO(\textit{elite abortion}) = B_0 + B_1(\textit{mass abortion attitudes}) + e \quad \text{Equation 6}$$

$$IDEO(\textit{elite abortion}) = B_0 + B_1(\textit{mass abortion attitudes 1 period lagged}) + e \quad \text{Equation 7}$$

$$IDEO(\textit{elite abortion}) = B_0 + B_1(\textit{mass abortion attitudes 2 period lagged}) + e \quad \text{Equation 8}$$

$$IDEO(\textit{mass abortion}) = B_0 + B_1(\textit{elite abortion attitudes}) + e \quad \text{Equation 9}$$

$$IDEO(\textit{mass abortion}) = B_0 + B_1(\textit{elite abortion attitudes 1 period lagged}) + e \quad \text{Equation 10}$$

$$IDEO(\textit{mass abortion}) = B_0 + B_1(\textit{elite abortion attitudes 2 year lagged}) + e \quad \text{Equation 11}$$

NARAL Interest Group Rating Data

While D-W NOMINATE scores are perhaps the best measures of the ideology of members of Congress, it cannot provide measures of legislator attitudes on specific policy or issue dimensions. In order to obtain a measure of congressional attitudes on abortion for each congress, I develop an abortion attitudes measure from the NARAL (National Abortion Rights Action League) interest group ratings from 1977 through 2006. The measure I use is an average of the total anti-choice votes over the total number of abortion votes the legislator cast for a particular congress.⁶ Table 12 provides a frequency table of the number of anti-choice votes NARAL rated for each congress in the analysis. One congress, the 107th Congress (2001-2002), has just 2 abortion votes with which to rate the congress. However, the means and standard deviations obtained from that congress were not unusual data points (neither outliers nor regression outliers) and thus I include it as a data point despite its questionable status as a true measure of abortion positions in the 107th Congress. Just under 95% of the data points in the analysis use six votes or more to establish the legislator’s position on abortion for each congress.

⁶ I use the terms “pro-choice” and “anti-choice” because those are the terms NARAL uses to describe the votes. I take no position on the pro-life/anti-life and pro-choice/anti-choice labels debate.

Table 12: NARAL Interest Group Score Votes by Congress: 95th – 109th

# of Anti-Choice Votes	Frequency Anti-Choice Votes	Anti-Choice Votes %	Cumulative % Anti-Choice Votes
2	100	6.67	6.67
6	100	6.67	13.33
9	200	13.33	26.67
10	200	13.33	40.00
11	100	6.67	46.67
12	400	26.67	73.33
13	100	6.67	80.00
16	200	13.33	93.33
23	100	6.67	100.00

Individual congressmen may have fewer votes due to having voted “present” or having been absent for one or more votes in that congress. Congressmen who were not rated due to not having recorded an abortion vote in that term are excluded from the statistical analysis.

Elite Polarization on Abortion

Figures 11 and 12 tell the tale of significant polarization of the average abortion position for elite legislators since 1977. While the parties were already polarized on the issue of abortion in the 95th Congress, the next few Congresses would witness overall stability in the difference between the two parties, with both parties trending in the anti-choice direction (Figure 11). All of that changes between 1984 and 1986. In that period the parties begin moving in opposite directions on abortion attitudes, with Republicans averaging 65% anti-choice votes in 1986 and Democrats averaging about 25% anti-choice votes for all abortion votes per congress. From that point the parties’ trends in abortion votes reflect a near-linear functional form with both parties moving in opposite directions. By 2006, Republicans are voting over 95% anti-choice in each congress, and Democrats are voting around or below 15% anti-choice. This approaches maximal polarization on abortion.

The consolidation of the two parties on abortion attitudes is apparent in both Figures 11 and 12. Recall that consolidation was an increase in the internal coherence of groups on an issue dimension

FIGURE 11: Mean NARAL Anti-Choice Rating for Republicans (Blue) and Democrats (Red)

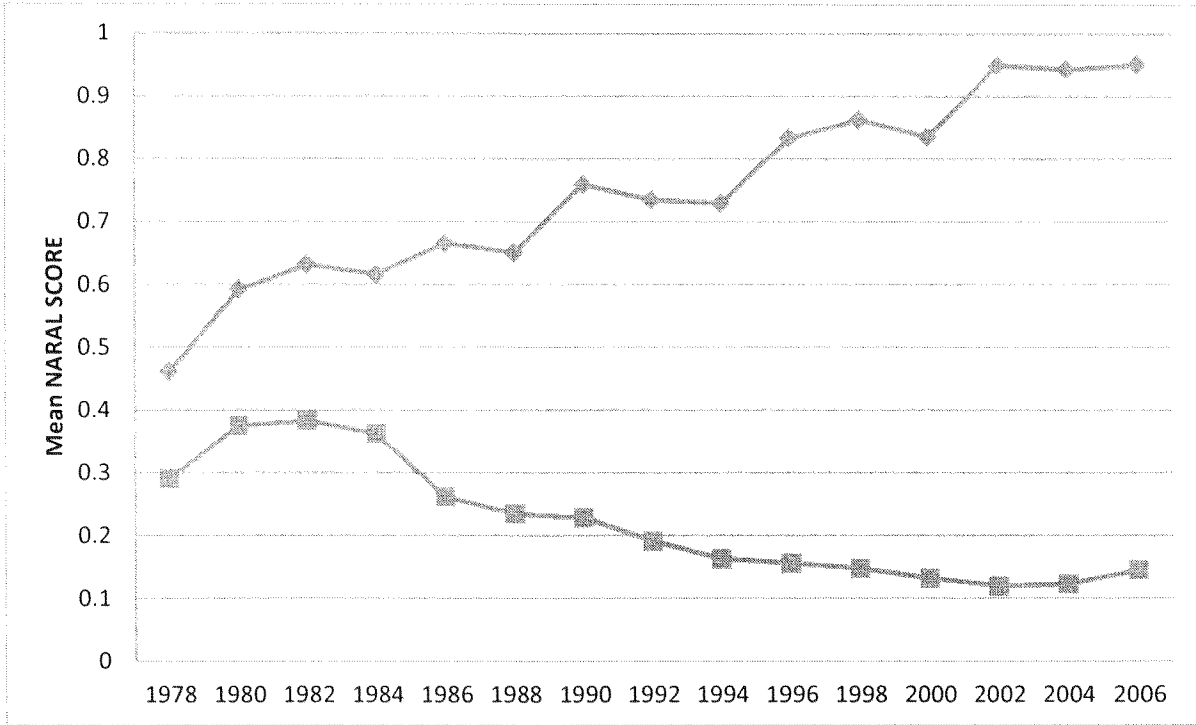
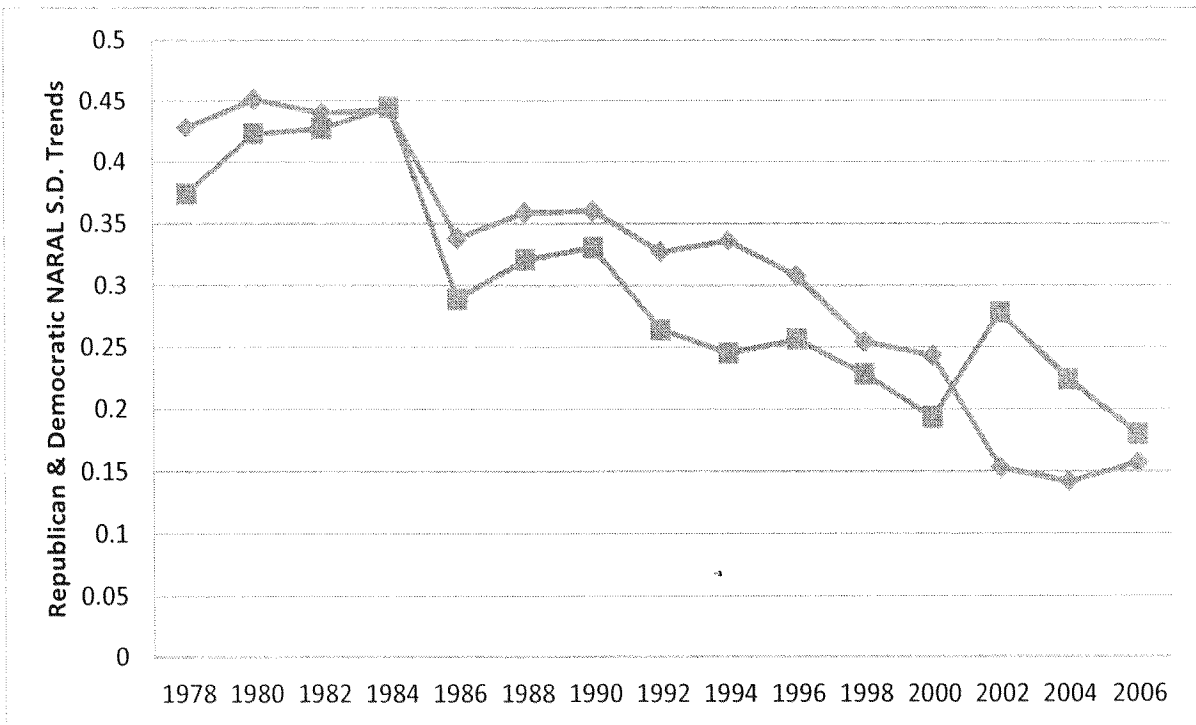


FIGURE 12: Average Standard Deviation for NARAL Anti-Choice Rating for Reps (blue) and Dems (red)



along with an increase in the disparity between the groups on an issue dimension. Figure 11 shows that the Republican and Democratic parties have significantly separated on the issue of abortion over the past 30 years. Figure 12 demonstrates the growing conformity on abortion within each party. It shows the trend in the average standard deviation for the NARAL anti-choice measure over time. From 1977 to 2006 the standard deviation for the NARAL anti-choice measure declines from 0.45 to around 0.15 on average. That is a 50% reduction in the average standard deviation for elite legislator abortion attitudes. The two parties have clearly polarized—significantly and substantially polarized—on the abortion issue dimension since the 1970's.

Mass vs. Elite Abortion Attitudes: Simultaneous, Recursive, or Causal?

The part of this analysis most fraught with pitfalls is the assessment of temporal causation in mass and elite polarization. Is it a) mass-driven polarization or is it b) elite driven polarization? Is it a recursive or simultaneous relationship (c or d)? Or is it, as Fiorina argues, in fact, e) elite polarization irrespective of, in fact in spite of, mass behavior (polarized or no). Table 13 provides important evidence on this question. It reports a test of both causal directions of polarization influence in simple and lagged regressions of partisan mass and elite abortion attitudes on abortion as well as the intra-party mass and elite abortion attitudes. Hence the first set of regressions examines the causal relationship between partisan attitudes on abortion in the mass and elite publics, while the next two sets of regressions assess the relationship between the polarization or Republican masses and Democratic masses with the Republican elites and the Democratic elites, respectively. As is immediately apparent from the analysis, the strong linear polarization trend in the abortion attitudes of the mass public and the abortion attitudes of elite legislators results in a strong zero-order relationship between the two trends.

For all models, there are significant relationships between the independent and dependent variables, and the lowest r-square is 64% of the variance explained by the model above the mean.

Table 13: Mass Public Respondents & Elite Legislators - Simple & Autoregressive Models of Abortion Attitudes

MODEL: $DV = B_0 + B_1(IV) + e$		N	Intercept	Parameter Estimate	Robust Standard Error	R ²	Adj. R ²	TVAL
Abortion Polarization								
NARAL (e) = Abortion GP (m)	14	0.256	2.722	0.289	0.868	0.857	9.42	
NARAL (e) = Abortion GP (m) lag 1P	14	0.324	2.476	0.362	0.781	0.762	6.85	
NARAL (e) = Abortion GP (m) lag 2P	13	0.369	2.585	0.406	0.749	0.726	6.36	
Abortion GP (m) = NARAL (e)	14	-0.069	0.319	0.033	0.868	0.857	9.80	
Abortion GP (m) = NARAL (e) lag 1P	13	-0.065	0.338	0.028	0.891	0.881	12.07	
Abortion GP (m) = NARAL (e) lag 2P	12	-0.064	0.371	0.032	0.902	0.892	11.45	
Democratic Abortion Polarization								
D NARAL (e) = Dem Abort GP (m)	14	0.317	-1.792	0.292	0.659	0.631	-6.14	
D NARAL (e) = Dem Abort GP (m) lag 1P	13	0.336	-1.905	0.319	0.764	0.743	-5.97	
D NARAL (e) = Dem Abort GP (m) lag 2P	12	0.354	-1.939	0.258	0.849	0.834	-7.50	
Dem Abort GP (m) = D NARAL (e)	14	0.134	-0.368	0.076	0.659	0.631	-5.73	
Dem Abort GP (m) = D NARAL (e) lag 1P	13	0.148	-0.401	0.060	0.764	0.743	-6.70	
Dem Abort GP (m) = D NARAL (e) lag 2P	12	0.163	-0.438	0.051	0.849	0.834	-8.55	
Republican Abortion Polarization								
R NARAL (e) = Rep Abort GP (m)	14	0.597	3.806	0.487	0.793	0.776	7.81	
R NARAL (e) = Rep Abort GP (m) lag 1P	13	0.578	3.664	0.484	0.840	0.825	7.58	
R NARAL (e) = Rep Abort GP (m) lag 2P	12	0.581	2.864	0.676	0.642	0.606	4.23	
Rep Abort GP (m) = R NARAL (e)	14	-0.117	0.208	0.036	0.793	0.776	5.78	
Rep Abort GP (m) = R NARAL (e) lag 1P	13	-0.126	0.229	0.038	0.839	0.825	6.10	
Rep Abort GP (m) = R NARAL (e) lag 2P	12	-0.116	0.224	0.046	0.642	0.606	4.89	

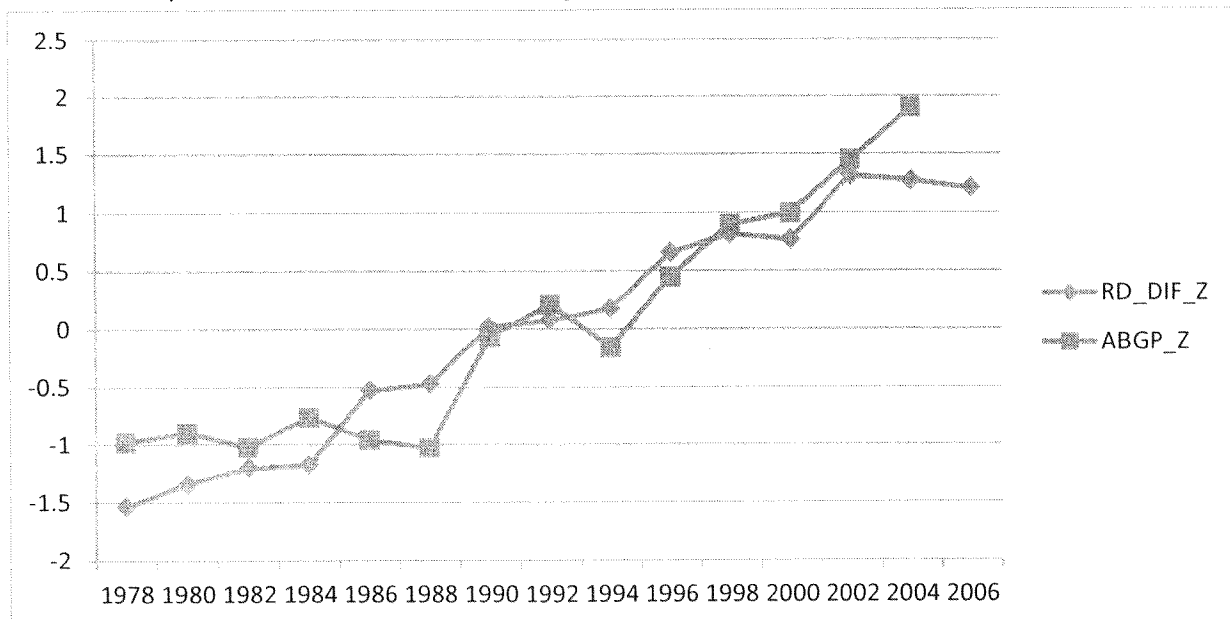
* significant at .05 level

** significant at .01 level

*** significant at .001 level

These are strong linear relationships. For the overall partisan measure, the best model is the 2-period lagged model of elite abortion attitudes regressed on mass abortion attitudes (90.2%). However, there are only a couple percentage points difference between that model and the simultaneous model (86.8%). The poorest performing models are the lagged mass abortion attitude on elite abortion attitude models, but they still explain around 75% of the variance. Given that these are small-n analyses and lagged regressions necessarily involve eliminating some data points, I hesitate to draw strong conclusions regarding the causal relationship between abortion attitudes at the mass and elite levels on the basis of these small differences in R-square. These results are consistent with a recursive relationship between mass and elite abortion attitude polarization, and there is some evidence that elites may take the lead to a certain extent. A number of studies have suggested that mass opinion is driven by elite opinion, and these results provide some evidence that at least elites may have a more significant influence on mass opinion than the mass public has on them (Conover, Gray, and Coombs 1982; Converse 1964; Hetherington 2001; Hill and Hinton-Anderson 1995; Hill and Hurley 1979; Mutz 2006; Sullivan, Piereson, and Marcus 1978). It is possible that there is some external mechanism

FIGURE 13: Z-Standardized Trends in Mass Abortion Group Polarization and the Difference b/w Republican and Democratic Elite Legislator Average NARAL Anti-Choice Rating

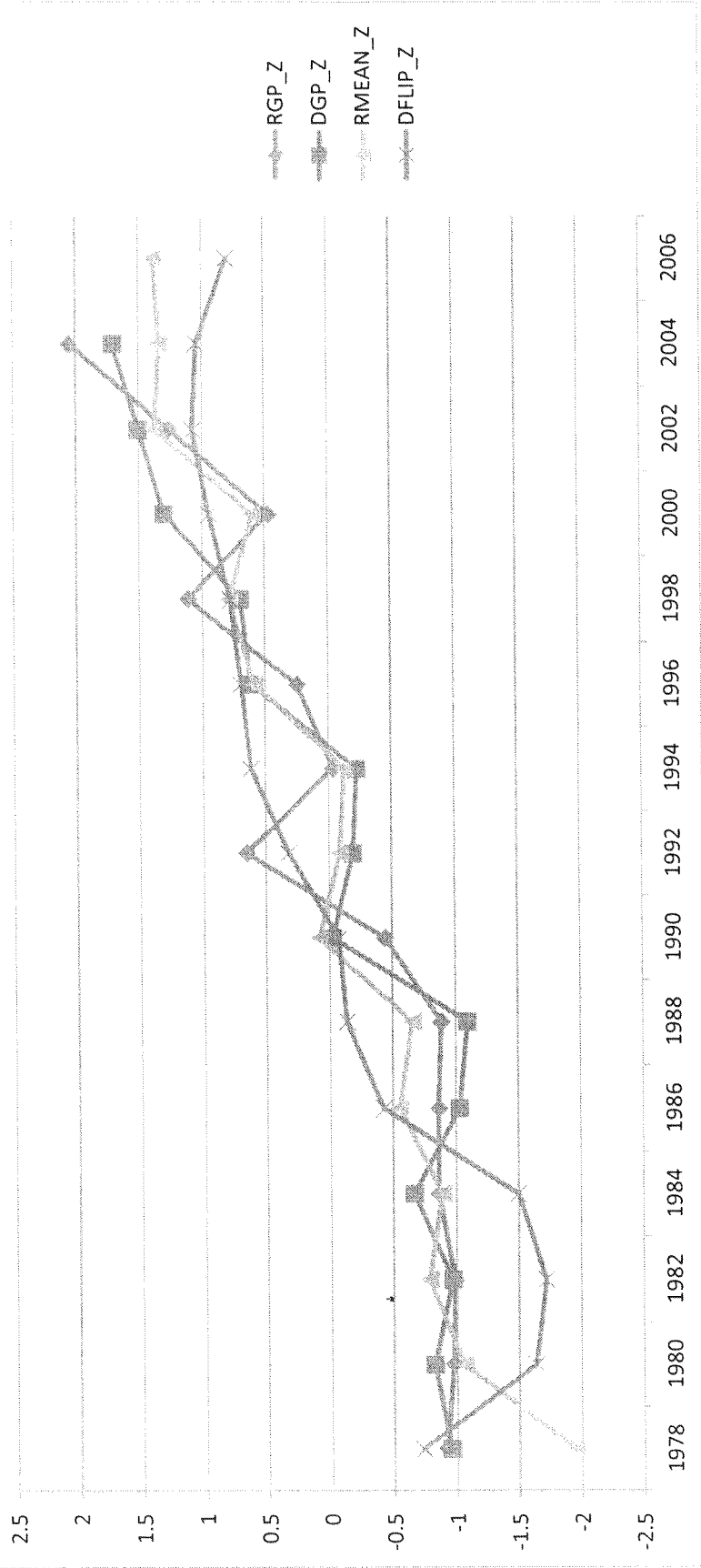


producing polarization of both attitudes. However, I believe that elite and mass polarization is a recursive mechanism with polarization in one leading to polarization in the other in a feedback loop of polarization on abortion. These results are consistent with that viewpoint, and at minimum provide strong evidence for simultaneous abortion polarization at the mass and elite levels.

The strongest evidence these models demonstrate is the simultaneity of abortion attitudes at the mass and elite levels. In other words, the results are significant in terms of what they do not show. There is no evidence that elite abortion attitudes have polarized while mass abortion attitudes have remained stable. There is no evidence that elite abortion attitudes have polarized while mass abortion attitudes have become less polarized. As is apparent in Figure 13, there is strong evidence that both mass and elite abortion attitudes have polarized and have polarized at about the same rate over the last 30 years. Figure 13 reports the Z-standardized scores for the mass and elite abortion attitude polarization measures. These scores are reported as Z-scores to permit a direct comparison of the polarization on abortion attitudes for the mass and elite publics. Note the similarity of the two polarization trends in abortion attitudes. While the elite abortion attitudes start slightly more polarized than mass abortion attitudes (-1.5 Z vs. -1.0 Z), by 1990 the abortion attitudes of the mass public are just as polarized as the elites are, and by 2004 are actually outstripping the polarization of elites relative to the mean polarization score over the period. In social science, linear trends as strong and near-simultaneous as these are hard to find. I believe this is strong evidence against Fiorina's formulation of elite polarization sans mass polarization. The mass public has polarized on abortion to relatively the same extent and at relatively the same rate as elite polarization on abortion.

Interestingly, while we would expect the party identifiers to be more tightly related to the polarization of their own party leaders (i.e. elite legislators of the same party identification), the simultaneous relationship between Republican and Democratic polarization and the polarization of their

FIGURE 14: Z-Standardized Trends in Average Partisan Mass Group Polarization Scores and Average Partisan NARAL Anti-Choice Rating



respective partisan constituencies in the mass public, while strong, is not as strong as that found in the overall partisan polarization on abortion (Table 13). The strongest models for Democrats are the 2-period lag models and, for the Republicans, it is the 1-period lag models that explain the most variance. However, as Figure 14 illustrates, there are strong linear trends of increasing polarization for the Republican and Democratic mass constituencies on abortion as well as the Republican and Democratic elite legislator abortion attitudes. The Democratic Z-score, “flipped” by subtracting their anti-choice NARAL rating from one (1-AC), lags behind the other polarization trends initially. But in the crucial period between 1984 and 1986 the Democratic elite legislators catch up and in fact outstrip the polarization of the other mass and elite groups through the mid-1990s, where Democratic elite polarization plateaus (as noted earlier, both elite parties approach maximal partisan polarization on abortion as of the dawn of the 21st century). The steepest rates in abortion polarization is evidenced by the mass Republican constituency, which evidences significant increases in polarization in the late 1980’s and early 1990’s as well as the late 1990’s and early 2000’s. But just as with the overall measure, all four groups evidence strong and significant increases in polarization since the 1970’s.

Conclusion

In short, I have developed a theoretically defensible valid and reliable measure of polarization at both the mass and elite levels for issue and policy dimensions. I use this measure to examine mass and elite abortion attitudes since the 1970’s, and I find substantial and significant evidence of partisan polarization on abortion attitudes over this period. I find strong support for a simultaneous relationship between mass and elite abortion attitudes over this period. These findings run directly contrary to Morris Fiorina’s argument that the public has not polarized on social issues. I reject his theoretical construction of increasing average ‘tolerance’ on social issues as a measure of depolarization, and provide what I believe to be a better empirical test of polarization grounded in the literature on polarization.

There has been substantial, statistically significant, robust, and functionally linear trend of polarization on abortion attitudes for the mass public and elites since the 1970's. While the parties have separated on the issue of abortion substantially (increasing alienation), they have also become more consistent and coherent within their caucuses on the issue of abortion (consolidation – increasing identification). Both factors are strong evidence of polarization at the mass and elite levels on abortion. Republicans and Democrats in the citizenry are just as far apart from one another on abortion as elite partisans are, and they are as far apart now as they ever have been since the 1970's. This has important implications for democratic politics, the terms and nature of our national policy debate, and the policy outputs of our constitutional republic.

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