Inequality and the Dynamics of Public Opinion: The Self-Reinforcing Link Between Economic Inequality and Mass Preferences

Nathan J. Kelly University of Tennessee
Peter K. Enns Cornell University

This article assesses the influence of income inequality on the public's policy mood. Recent work has produced divergent perspectives on the relationship between inequality, public opinion, and government redistribution. One group of scholars suggests that unequal representation of different income groups reproduces inequality as politicians respond to the preferences of the rich. Another group of scholars pays relatively little attention to distributional outcomes but shows that government is generally just as responsive to the poor as to the rich. Utilizing theoretical insights from comparative political economy and time-series data from 1952 to 2006, supplemented with cross-sectional analysis where appropriate, we show that economic inequality is, in fact, self-reinforcing, but that this is fully consistent with the idea that government tends to respond equally to rich and poor in its policy enactments.

This article addresses two central components of politics: mass preferences and economic inequality. Explaining the formation of public opinion and its influence on government is essential for a complete understanding of a democratic system. Understanding income inequality also holds a central place in the study of politics. In fact, one influential definition of politics—Who gets what, when, and how? (Lasswell 1958)—hinges on distributional outcomes. We bring these two components of politics together by analyzing how income inequality influences public preferences.

In doing this, we build on a growing body of research dedicated to understanding the implications of economic and social inequality for American democracy. While scholars from a variety of related disciplines have been interested in inequality for decades, the recent American Political Science Association Task Force on Inequality and American Democracy has undoubtedly injected renewed vigor to this area of inquiry (see Jacobs and Page 2005). Yet, the emerging research has produced seemingly conflicting findings.

On one hand, scholars such as Bartels (2008) and Gilens (2005, 2011) have sounded an urgent alarm that economic inequalities generate political inequities that threaten the very heart of American democracy. Bartels implies that economic inequality may be self-reinforcing, with economic inequality generating political inequities that prevent the poor from using the democratic process to push for government action that would increase their well-being and reduce economic inequities. On the other hand, Soroka and Wlezien (2008, 2011) and Ura and Ellis (2008) argue that there is little reason to believe that increasing economic inequality is a fundamental challenge to the logic of American democracy. They reach this conclusion based on evidence that there is similarity in the over-time movement of mass preferences across income

Nathan J. Kelly, Department of Political Science, 1001 McClung Tower, University of Tennessee, Knoxville, TN 37996 (Nathan.J.Kelly@gmail.com). Peter K. Enns, Department of Government, 214 White Hall, Cornell University, Ithaca, NY 14853 (pe52@cornell.edu).

A previous version of this article was presented at the EPOP 2009 conference. The authors thank three anonymous reviewers, Larry Bartels, Chris Ellis, Martin Gilens, Suzanne Mettler, Chris Wlezien, and the Junior Faculty Workshop at the University of Tennessee Department of Political Science for comments on previous versions of this article. All remaining errors are, of course, the responsibility of the authors. We also thank Brian Richman for research assistance. Support for this research came from NSF Grant SES-0318044. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation. Data needed to replicate the analyses presented in this article can be found at http://dvn.iq.harvard.edu/dvn/dv/nkellydata.

American Journal of Political Science, Vol. 54, No. 4, October 2010, Pp. 855–870

©2010, Midwest Political Science Association DOI: 10.1111/j.1540-5907.2010.00472.x

groups and that government is generally as responsive to the poor as to the rich. Therefore, this work implies that it is unlikely that divergent preferences between the rich and the poor would create a situation in which economic inequality feeds back into the political system in a way that current high (or low) levels of inequality generate yet more (or less) future economic inequality.

We utilize macrolevel analysis of time-series data to argue that economic inequality is, in fact, self-reinforcing. When economic inequality is high (or low), it is likely to produce even higher (or lower) future levels of inequality. However, we find that economic inequality is self-reinforcing not due to lack of responsiveness to the poor but to how the preferences of both the rich and the poor respond to changes in income inequality.

In the remainder of the article, we engage in a more detailed discussion of the recent literature on inequality and representational linkage in U.S. politics. We then develop connections between this literature and the political economy models of Meltzer and Richard (1981) and Benabou (2000) that lead to competing predictions regarding the connection between income inequality and public opinion. Finally, we test these predictions with time-series data from 1952 to 2006, supplemented with cross-sectional data, and discuss the major results and conclusions of the analysis.

Economic Inequality and American Democracy: Divergent Approaches, Competing Results

One of the leading arguments in favor of democracy relates to the distribution of power in society and the benefit that an egalitarian distribution of power has for the poor (Lenski 1966; Lipset 1981). The basic logic of the argument is that those at the bottom of society benefit from redistribution. When those at the bottom are given the franchise and have a formal say about the formation of government policy, redistribution will increase. This increase in redistribution then reduces economic inequality. Essentially, the argument holds that democracy enhances the absolute and relative well-being of the poor, who demand increased state redistribution and are able to see their demands met when provided with procedural mechanisms for influencing state policy.

With this theory of "redistributive democracy" in the background, contemporary observers of American politics have reacted with alarm to the path of economic inequality over the past three decades. It is now a widely known fact that income inequality, measured in a variety of ways and using a variety of income concepts, has been rising steadily since the late 1960s or early 1970s (Bartels 2006; Danziger and Gottschalk 1995; Kelly 2009). After declining substantially for much of the post–World War II era, the path of economic inequality since 1970 charts as a nearly straight line toward more inequality (Danziger and Gottschalk 1995; Piketty and Saez 2003).

For scholars operating within the redistributive democracy framework, this increase in income inequality raises fundamental questions about American democracy. If we accept the basic framework of democratic redistribution theory, there seem to be two possible explanations for a sustained increase in income inequality in a democratic system. First, it may be that government is impotent to stem the rising tide of inequality, with economic and demographic factors that are beyond the control of the state driving inequality higher. If this is the case, the democratic redistribution perspective is minimized in importance because governments simply cannot affect important change in distributional outcomes. The second possibility is that the democratic system in the United States is so unequal that those at the bottom cannot effectively petition the state for action that would balance the scales between rich and poor.

A substantial amount of evidence undermines the first potential explanation for the path of economic inequality over the past three decades. While former treasury secretary Henry Paulson and many other economists have attributed economic inequity to market forces that are beyond the control of government and the political parties (Bartels 2008, 29), the idea that government cannot effectively redress economic inequities simply does not ring true when compared to empirical reality. A substantial and growing body of evidence points to the conclusion that public policies, along with economic and demographic factors, have powerful effects on distributional outcomes. Hibbs and Dennis (1988) show that partisan control of government influences the size of government transfer programs. Page and Simmons (2000) catalog a variety of programs that are effectively used to combat inequality and poverty. There is also strong evidence that partisan control of the presidency and the ideological tone of national public policy influence income inequality (Bartels 2008; Hibbs 1987; Kelly 2005, 2009). It seems quite clear that government *can* affect distributional outcomes.

Given this clear evidence that government has the capacity to alter the path of economic inequality, scholars have turned to an effort to determine whether American democracy is flawed in some way that might lead to the sustained increase in inequality that we have witnessed. In order to assess whether weaknesses in American democracy have been a crucial culprit in the rise in economic

inequality, a focus on heterogeneity in mass preferences and heterogeneity of government responsiveness across income groups has emerged in recent scholarship.

Redistributive democracy theory assumes that the interests of the rich and the poor are different when it comes to redistribution and distributional outcomes.[1] Specifically, the poor are expected to be much more supportive of government action to balance the scales of inequality than the rich. Despite recent evidence that the rich and the poor show broad agreement on the most fundamental questions of governance and the role of the state, when it comes to opinion regarding state intervention to explicitly redistribute income from the rich to the poor, those at the top and the bottom differ (Gilens 2005, 2009; McCarty, Poole, and Rosenthal 2006; Page and Jacobs 2009).[2] There does appear, then, to be at least a degree of relevant heterogeneity in mass preferences.

With regard to heterogeneity of government responsiveness to mass preferences, Gilens (2005, 2011) and Bartels (2008) provide some of the most recent work on this topic. Using evidence from the Senate Election Study to compare constituency preferences to Senate roll-call voting behavior, Bartels (2008) shows that the behavior of Senators aligns more closely with the preferences of the rich than the poor. In a similar vein, Gilens (2005, 2011) assesses the linkage between mass preferences and policy change. While his central finding is that there is a bias toward the status quo in policy making, he notes that policy is much more likely to shift when the rich support a change than when the poor are supportive of a change. He concludes that when the issue preferences of the rich and the poor diverge, policy makers are more responsive to the preferences of those at the top.[3]

Together, these analyses form what we call the "unequal democracy" perspective. From this perspective, rising inequality in the United States has profound implications for political inequality, essentially creating a vicious cycle in which inequality begets yet more inequality. Bartels's (2008) work in particular has implications for understanding how unequal responsiveness affects the path of economic inequality. While assessing a variety of reasons for the unabated increase in income inequality since the 1970s, one factor that is clearly implicated is the lack of responsiveness to the poor juxtaposed with responsiveness to the policy preferences of the rich.[4] Bartels at least implies that the steady increase in inequality over time is a symptom of an unequal democracy that does not respond to the preferences or the interests of those at the bottom of the income distribution (Bartels 2008, 286). Income inequality rises and government does little to respond because those at the top see little need for intervention and those at the bottom have little influence.

Much of the analysis supporting the unequal democracy perspective is rooted in cross-sectional evidence. In particular, the most pivotal evidence regarding Senators' responsiveness to the rich and the poor is based entirely on cross-sectional correlations between the preferences of the rich and the poor (measured at the state level) and Senators' voting behavior. An important critique of such analyses is that they do not pay sufficient attention to the dynamics of mass preferences. This critique has both theoretical and empirical roots. First, from a theoretical perspective, when examining policy change, it is not ideal to examine responsiveness using data in which no over-time opinion movement is observed. The cross-sectional approach is well suited for analyzing whether or not a particular policy, such as Aid to Dependent Children in 1935, is passed. However, once a policy is in place—and the status quo is set—politicians may only have an incentive to change the policy (i.e., increase or decrease funding, raise or lower regulations, etc.) if public opinion shifts. Absent any change in public opinion, politicians face diminished incentives to modify the status quo. (Though there are certainly other incentives, such as inputs from interest groups, that could be present.) If we want to understand why redistributive policies increase or decrease, at a minimum we need to examine whether and how public opinion moves. Second, from a purely statistical perspective, the preferences of the poor are more noisy than the preferences of the rich. Given this, it is quite possible that statistical associations between policy making and the preferences of the rich can be more easily

[1] While this theory clearly is rooted in discussions of divergent *interests* between the rich and the poor, empirical studies rooted in this theory commonly, and of necessity, move on to discussions of *preferences* reported in surveys, which may or may not align with the *interests* in which the theory is rooted.

[2] However, there is less difference between the opinions of the rich and the poor than one might at first suspect. In several policy domains, the opinions of those at the top and the bottom are remarkably similar (Enns and Wlezien 2011; Soroka and Wlezien 2008).

[3] Jacobs and Page (2005) also present evidence related to the unequal democracy perspective. Avoiding some of the weaknesses of other research in this vein, they use a time-series, cross-section design to argue that foreign policy making is generally more responsive to business leaders than to general public opinion.

[4] Of course, Bartels presents a much more nuanced picture of American democracy, particularly drawing attention to the importance of the ideological convictions of elected officials, which can lead public opinion of both the rich and the poor to have relatively little effect on policy, either because opinion is confused and disconnected from relevant values or because policy makers simply ignore it. In a related vein, Jacobs and Shapiro (2000) argue that lack of responsiveness to the expressed preferences of the public is connected to elite manipulation of opinion.

found because the preferences of the rich contain less noise (Bhatti and Erikson 2011; Stimson 2009).[5]

Both of these critiques have led some scholars to advocate an explicitly cross-temporal approach to assessing inequality and American democracy. Time-series analysis provides for an assessment of movement over time—of responsiveness of policy making to mass preferences. This approach also mitigates some of the concern about the signal to noise ratio of the preferences of the poor relative to the preferences of the rich. Over time at the aggregate level, truly random fluctuations at the individual level cancel each other out, leaving only a real "signal." This is the case in measuring both the preferences of the rich and the poor and decreases the likelihood that findings of unequal responsiveness are merely a statistical artifact.

Within this "dynamic democracy" framework, Ura and Ellis (2008) and Soroka and Wlezien (2008, 2011) address questions related to economic inequality and policy responsiveness. Using time-series measures of aggregate public opinion calculated within income categories based on General Social Survey Data from 1974 to 2004 (to 1996 for the responsiveness portion of the analysis), Ura and Ellis (2008) present two particularly important findings. First, especially in terms of movement over time, the preferences of those in the lowest and highest income categories are highly correlated. That is, changes in the policy preferences of the rich and the poor differ little over time. Second, the policy-making activities of Congress respond similarly to the policy preferences of citizens at all income levels. Using similar data but focusing on opinions toward specific policy domains and issues, Soroka and Wlezien (2008) show that the opinions of the mass public follow a similar path over time whether these attitudes are disaggregated by income or education.[6]

From this perspective, the democratic system in the United States is responsive to both the rich and the poor, in large part because the preferences of both groups track each other over time. In terms of implications for the steady increase in economic inequality over the past several decades, this perspective suggests that shortcomings in policy responsiveness to those at different income levels are not the culprit. We must look elsewhere to understand how economic inequality within the American democratic system has continued to rise so steadily. And as we do, we must keep in mind the clear and consistent findings showing that government policy has the ability to reduce economic inequality (Bartels 2008; Kelly 2009).

Empirical results from the primarily cross-sectional unequal democracy perspective and the cross-temporal dynamic democracy perspective present a puzzle regarding the steady increase in inequality observed over the past 30 years. The unequal democracy thesis points to unequal governmental responsiveness to the rich and the poor as a potential explanation. However, this explanation is not at all consistent with the findings from the dynamic democracy perspective, which shows homogeneity of public opinion change and policy responsiveness across income groups. Yet the dynamic democracy perspective provides little in the way of guidance as to why income inequality has continued unabated.[7]

In order to untangle this puzzle, it is important to take seriously both the consistent trend toward inequality over the past 30 years and the homogeneity of opinion dynamics across income groups. In this article we look for a solution to the discrepancies between findings of unequal democracy and dynamic democracy by examining the role of economic inequality in opinion formation. Our argument is that the vicious cycle of inequality suggested by the unequal democracy perspective is legitimate, but that responsiveness of government to public opinion across income categories is also real.

We reconcile these competing perspectives by showing how public opinion responds to income inequality. Our analysis is informed by two competing models of

[5]The point we are making here regarding noise is purely a statistical one. It is also possible that differences in information, uncertainty, and manipulation by elites produce systematic differences between income groups. As we note below, our use of time-series analysis is well suited to "pick up" these differences.

[6]Other authors have also discussed the homogeneity of preferences across various population subgroups and have developed explanations for why mass opinion displays such a degree of homogeneity in its movement over time (Enns and Kellstedt 2008; Page and Shapiro 1992). Some explanations for the homogeneity of opinion movement over time are rooted in deception or misinformation from political elites that lead the poor to develop a false consciousness. By showing that public opinion is often shaped by policy elites, Jacobs and Shapiro (2000) provide evidence in favor of this perspective.

[7]The divergent modes of analysis used by these two theoretical camps may be crucial. The unequal democracy perspective argues that the absolute level of support for various redistributive programs varies between the rich and the poor, and when actual policy is compared to the opinions of citizens with different incomes, the rich are more likely to have their opinions correspond with policy (Gilens 2005, 2009). On the other hand, the dynamic democracy perspective argues that the rich and the poor are very similar in terms of movement of public opinion over time (Soroka and Wlezien 2008; Ura and Ellis 2008). One possible reason for the differences between these two sets of findings, then, could be due to method of analysis. In the analysis presented in this article, we rely primarily on time-series evidence, so our methodological approach aligns more clearly with the dynamic democracy perspective, and this might in part explain some of the results that we obtain. Importantly, however, our focus on time-series data is theoretically motivated by our ultimate goal of better understanding how the dynamics of American politics have contributed to rising inequality. This focus supports the use of cross-temporal data.

inequality and public opinion. The first is the classic model of Meltzer and Richard (1981), which predicts that increases in income inequality push support for redistribution higher. Under this view, if the government responds as expected to the desires of citizens, growing inequality will be met with increased government action to ameliorate it. This is the theory implicitly adopted by proponents of unequal democracy. The second model (Benabou 2000) predicts that increasing inequality can actually drive support for redistribution lower. If this is the case, the steady increase in inequality that has not been met with sufficient government action to turn the tide does not force the conclusion that representation in the United States is broken. Rising inequality, at least to some threshold, may dampen support for government intervention such that the path of American inequality and government's response could occur in a representative system that is responding to citizen preferences.

In general, we find support in the aggregate data for the predictions of the Benabou model. We also find, in an analysis of public opinion by income group, that both the rich and the poor respond to rising inequality by shifting in a conservative direction. Together, these findings offer an important insight into the seemingly conflicting findings of the unequal and dynamic democracy perspectives. Previous research shows that liberal public opinion produces more egalitarian distributional outcomes (through the effects of opinion on election outcomes and public policy), and that the effect of public opinion is larger than other important explanations of income inequality such as deindustrialization, single-female households, and female labor force participation (Kelly 2009). Thus, our finding that public opinion—of all income groups—becomes more conservative in response to an increase in inequality helps to explain how economic inequality can reinforce itself through feedback on the political system (a conclusion of the unequal democracy perspective) at the same time that government responds to the reported preferences of citizens (a finding of the dynamic democracy literature).

Competing Models of Inequality, Mass Preferences, and Government Policy

Underlying the literature discussed to this point is either an implicit or explicit assumption about how inequality, mass preferences, and policy outcomes are connected in a democracy. The assumption is that when inequality rises, demand for inequality-reducing policy will increase, and such policies will be enacted. This assumption is rooted in a classic model of democracy and redistribution developed by Meltzer and Richard (1981). Alternatively, a more recent model (Benabou 2000) suggests a substantially different set of connections between economic inequality, mass preferences, and policies designed to reduce inequality. As we bring an explicit assessment of the linkage between economic inequality and mass preferences into the discussion of inequality and American democracy, it is essential to identify the implications of these competing models for the formation of public opinion.

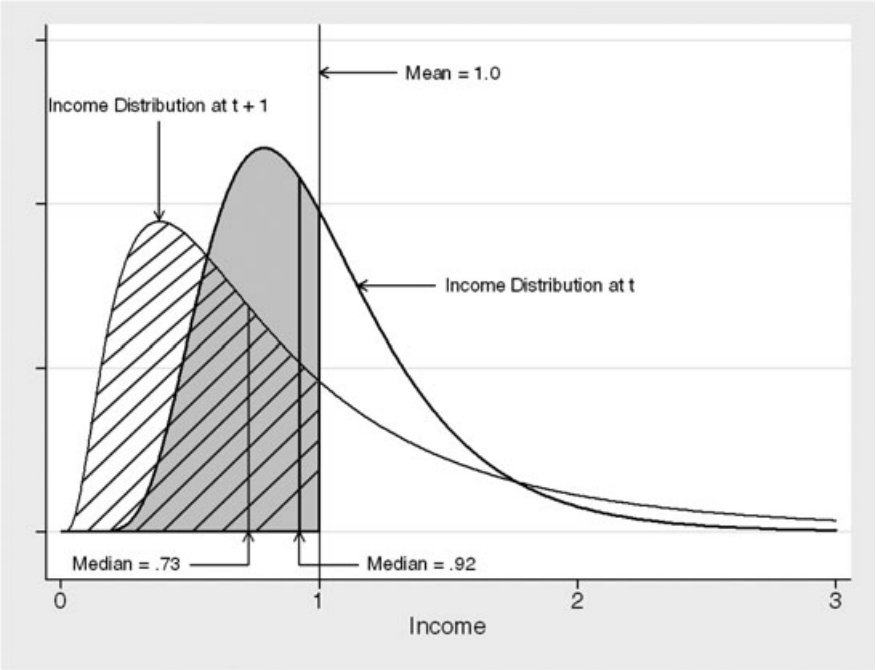
Inequality Enhances Support for Government Spending: The Meltzer-Richard Model

More than two decades ago, Meltzer and Richard (1981) published what remains a classic statement on the theoretical link between distributional outcomes and government expenditures. These scholars elucidate a theory suggesting that income inequality produces expansion of government. They argue that when inequality increases, the mass public responds by requesting more government activity, which government then enacts by increasing redistributive welfare state programs. While existing empirical tests of this theory (Meltzer and Richard 1983; Moene and Wallerstein 2001, 2003) focus on the link between economic inequality and government social expenditures, it is important to emphasize that public opinion is at the heart of the model. The model's redistributive implications depend on how inequality influences mass preferences. We examine these implications in more detail to generate expectations regarding the link between movement over time in inequality and public opinion.

The Meltzer-Richard (MR) model is relevant for our purposes due to its treatment of the relationship between economic inequality and public opinion in the aggregate over time. The key insight of the MR model, rooted in an assumption that government redistribution has no net effect on aggregate well-being, is that those with below-average incomes favor at least some degree of redistribution while those above the mean do not. This leads to the central prediction of the MR model—that increases in income inequality produce increased public support for redistribution.

Figure 1 helps to demonstrate this insight by depicting two hypothetical log-normal income distributions, one at time t and the other at a time in the future $(t + 1)$ with income plotted on the X axis and proportion of population on the Y axis. Both distributions share a common mean. What varies across these distributions is the level of inequality.

FIGURE 1 Two Hypothetical Income Distributions



The question for the purpose of this article is how does public support for government expansion change in response to an increase in inequality between t and $t+1$? Under the MR model, support for government expansion increases. This is the case because all individuals to the left of the line demarcating mean income support redistribution, while those at and to the right of the mean line do not support redistribution. Since this is the case, the *shaded* area under the income distribution line at time t represents the proportion of the population supporting taxes and spending. For the more unequal distribution at time $t+1$, the *striped* area is the proportion of the population supporting government action. The striped area is larger than the shaded area, meaning that a larger proportion of the population is to the left of the mean, and supportive of redistribution, under the more unequal income distribution.

More formally, if we follow Meltzer and Richard by assuming that government redistribution does not impact aggregate welfare, the proportion of the population supporting redistribution is given by:

$$p = \Phi\left(\frac{\Delta^2/2}{\Delta}\right) = \Phi\left(\frac{\Delta}{2}\right), \qquad (1)$$

where p is the proportion of the population supportive of redistribution, Φ is the standard normal cumulative distribution function, and Δ is the degree of inequality, with $\Delta^2/2$ giving the difference between mean and median income (notation borrowed from Benabou 2000). Here we are simply stating that those below mean income support redistribution. As the value of the quantity in parentheses rises, the function produces a higher value of p. This equation shows that public support for redistribution, shorthand for the size of government in the MR model, should be positively correlated with economic inequality. If this model is correct, it is easy to see why proponents of the unequal democracy hypothesis raise questions about the American democratic system given the path of inequality over the past several decades. This model predicts that the public will support government expansion in response to rising inequality. As rising inequality pushes more people below the mean, the percentage of the public favoring redistribution increases. As a result, given government's ability to influence distributional outcomes (Hibbs 1987; Hibbs and Dennis 1988; Kelly 2009), inequality should decrease. What we have actually observed is a sustained increase in inequality.

Inequality Reduces Support for Government Expenditures: The Benabou Model

Benabou (2000) presents a fundamentally different perspective on the link between economic inequality and support for government expansion. Whereas the MR

model assumes that redistribution has no effect on the overall size of the economy (or even produces a deadweight loss), the Benabou model starts with the premise that redistribution can enhance aggregate welfare. This model has a variety of implications, but specifically with regard to public preferences for government action, the model suggests that popular support for welfare-enhancing redistribution (and government expenditure more generally) will fall in response to increases in inequality. This seems counterintuitive at first, but when the differences between the Benabou model and the MR model are fully understood, this implication becomes clearer.

The key difference in the underlying assumptions of the Benabou model as opposed to the MR model is Benabou posits redistribution enhances overall welfare.[8] The MR model describes an equality-increasing redistribution that has no effect on overall welfare. Benabou's work, to the contrary, does not model a mean-preserving decrease in inequality, but rather a mean-*increasing* reduction in inequality. Benabou's model, then, depicts an equality-increasing redistribution that has a positive impact on overall welfare. This discrepancy in the two models provides the foundation for their contrasting predictions regarding the link between inequality and mass policy preferences.

The intuition of the Benabou model is as follows. Begin with the proposition that government taxing and spending, "redistribution" in the parlance of the Benabou model, can generate aggregate welfare improvement. When government takes action, the actions it takes make society as a whole better off. This is certainly not the standard public choice perspective on government activity and probably does not accurately describe *every* government action, but it is not hard to come up with examples that fit this mold. For example, society is better off when government builds roads that facilitate transportation and reduce transaction costs in economic trade, provides health care or education that generates greater worker productivity, creates social insurance programs that mitigate risk, and funds security that protects property rights and facilitates gains from trade. When these aggregate welfare enhancements due to redistribution are large relative to the degree of income inequality, Benabou's model predicts "near-unanimous support for the policy [redistribution]. As inequality rises, the proportion of those who stand to lose from the redistribution increases" (2000, 100). This suggests a negative association between income inequality and support for redistribution, with redistribution once again used in this model to represent the size of government.

The proportion of the population supporting redistribution under this model is given by the following from Benabou (2000):

$$p = \Phi\left(\frac{B + \Delta^2/2}{\Delta}\right) = \Phi\left(\frac{B}{\Delta} + \frac{\Delta}{2}\right), \qquad (2)$$

where p is the proportion of the population supportive of redistribution, Φ is the standard normal cumulative distribution function, Δ is the degree of inequality, and B is the aggregate welfare enhancement produced by redistribution. This equation provides a useful contrast between the Benabou model here and the MR model from equation (1). To draw out the difference more clearly, we must focus on the term B/Δ, which is the essential difference between the Benabou model and the MR model. This equation shows that, so long as the aggregate welfare enhancement from redistribution, B, is large enough relative to inequality, Δ, increases in inequality will lead to lower support for redistribution. Given that p increases as the quantity $(B/\Delta + \Delta/2)$ increases, we can assess the comparative statics of $\delta p/\delta\Delta$ by differentiating the final portion of equation (2):

$$\frac{\delta p}{\delta \Delta} = \frac{1}{2} - \frac{B}{\Delta^2}. \qquad (3)$$

So long as $B/\Delta^2 < 0.5$, any increase in inequality will produce a decline in support for redistribution. If $B/\Delta^2 \geq 0.5$, the Benabou model reverts to the same prediction as the MR model. The important message is that if redistribution sufficiently enhances (or is perceived to enhance) aggregate welfare, and inequality is below a certain (real or perceived) threshold, an increase in inequality will be negatively associated with public support for redistribution under the Benabou model. If correct, this model generates the possibility that steadily increasing economic inequality in America is not due to fundamental inequities in the political system (though such inequities could certainly be present) but is due instead to how aggregate preferences respond to distributional outcomes.[9]

On the one hand, then, the MR model argues that when income inequality goes up, the mass public shifts toward the left and prefers more government action. The

[8]There are a wide variety of other differences that become more important if interested in explaining the size of government. For our focus on public opinion, however, the welfare-enhancing nature of public expenditures is the key difference between the two theories.

[9]The Benabou model provides a framework for the possibility of an inverse relationship between inequality and support for redistribution. We cannot be certain if the United States meets the condition relating to B/Δ^2. Nonetheless, much (although not all) of the analysis presented later in the article is at least consistent with the Benabou model.

Benabou model, under certain conditions, predicts exactly the opposite. When income inequality is on the rise, mass preferences should shift toward the right.[10] In sum, the two competing theories have quite different implications for interpreting increases in economic inequality in the United States. The models also suggest fundamentally different predictions about how economic inequality is linked to public opinion. With these models in mind, we turn in the next section to an analysis of how economic inequality has influenced public opinion in the United States during the last half of the twentieth century.

Data and Analysis: Economic Inequality and Support for Government Activity

To assess how public opinion responds to changes in economic inequality, we model the connection between inequality in family money income as measured by the Gini coefficient and the liberalism of public opinion measured with Stimson's (1999) public mood. Most of our analysis relies on annual time-series data from 1952 to 2006, but we also supplement these data with analyses of shorter time spans and cross-sectional data. While measuring income inequality based on family money income using the Gini coefficient is standard practice in the literature on income inequality, our use of public mood in this context deserves a bit more discussion.

We should first note that the implications of the MR or the Benabou models are usually tested by examining the link between economic inequality and policy outcomes such as public spending or tax structures (Bassett, Burkett, and Putterman 1999; Borge and Rattsø 2004; de Mello and Tiongson 2006; Meltzer and Richard 1983; Milanovic 2000; Moene and Wallerstein 2001, 2003; Perotti 1996). This is because government spending and taxation is ultimately what these models seek to explain. We have demonstrated above, however, that the models have important implications for public opinion as well. The implications for public opinion have never been explicitly tested to our knowledge, and given the substantive focus of this article on reconciling differences between cross-sectional and cross-temporal analyses of government responsiveness to public opinion, these implications are most central. Analyzing public opinion as the outcome of interest not only provides new tests of implications of the two models discussed above, but also provides important leverage on the debate between proponents of unequal and dynamic democracy.

Our use of public mood as a measure of public opinion, while certainly consistent with numerous studies of the dynamics of American public opinion, might appear to diverge from the theoretical framework established by both Meltzer and Richard and Benabou. These theories formally model "the preferred tax rate" as the outcome on which individuals in society maximize their utility. However, the tax rate in models such as these is shorthand for government activity in general. Because of this, it seems that a measure of general public opinion such as the public mood would be among the most appropriate measures of public opinion. Public mood aggregates thousands of individual responses to hundreds of survey questions across a variety of political issue domains. It provides a general indicator of sentiment for policy change, where higher values indicate greater support for government expansion (Erikson, MacKuen, and Stimson 2002; Stimson 1999). Given that the formal models discussed above use preferred levels of taxation to represent general support for government expansion, our use of public mood in the context of the MR and Benabou models is fully justified.[11]

Why Mood Moves: Incorporating Existing Evidence

The heart of our analysis seeks to examine the linkage between economic inequality and support for government expansion (i.e., public mood liberalism). Other studies have analyzed the determinants of the public mood, so

[10] It is important to point out that neither of the theories above requires knowledge of distributional outcomes on the part of the mass public in order for macro preferences to be influenced by income inequality. These models presume only that individuals understand their own economic situation. They do not need to know where they are located in the income distribution, and they do not need to know how they are doing relative to others. The only knowledge that these models presume is that people can determine whether an expansion of government will provide benefits that exceed the costs to their own financial situation. Even this may be a heroic assumption at the micro level, with such individual-level calculations being fraught with error. At the macro level over time, however, it is possible that random individual-level errors will produce no systematic signal in the aggregate-level time-series data, and any changes in macro opinion will be the result of accurate calculations regarding the costs and benefits of government expansion. The bottom line is that the linkage between inequality and public opinion requires no more sophistication of the mass public than existing models of the public mood or economic voting.

[11] In this discussion, we do not mean to imply that opinions about tax policy, redistributive programs, and general liberal-conservative attitudes are completely interchangeable. Our point is that the MR and Benabou models are conceptually focused on general public opinion despite using such terms as "preferred tax rate." This fact is foundational in our decision to focus on public mood as our primary dependent variable.

we also want to control for factors that have been found to influence public opinion in the existing literature. While income inequality has not been examined in previous studies of macro opinion change, the existing literature does provide a useful place to start.

The state of the art in explaining changes in the public mood revolves around two explanations. The first is that public mood is a thermostatic response to government policy enactments (Erikson, MacKuen, and Stimson 2002; Wlezien 1995). Mood is analogous to a household thermostat in this framework. When the ideological outputs of government become too liberal (or conservative), the public mood becomes more conservative (or liberal) in response. This shift in opinion lets policy makers know when they have gone astray in one direction or another and prods them to change course. Our models of public mood must account for government policy enactments, and to do this we will include Erikson, MacKuen, and Stimson's (2002) measure of policy liberalism, which captures the cumulative ideological tone of the most important laws passed by Congress and signed by the president.

The second major explanation of public mood is the level of economic well-being as measured by the general condition of the economy (Durr 1993; Erikson, MacKuen, and Stimson 2002). Most recently, Erikson, MacKuen, and Stimson (2002) find that unemployment produces greater support for left policy while inflation decreases public mood liberalism. The theory behind these results is that the public recognizes a need for infusion of publicly funded programs when unemployment is on the rise and realizes that less government spending is necessary to dampen inflationary pressures. In order to account for this explanation, we include measures of unemployment and inflation.

Results: Modeling Public Mood

In order to estimate the effects of economic inequality on public mood while controlling for other factors that have been found to influence the path of macro public opinion, we conduct a multivariate time-series regression in the form of an error correction model (ECM). While the use of an ECM is often motivated by the presence of a nonstationary time-series as a dependent variable, our application of this model is based on the fact that it is among the most general time-series models that imposes the fewest possible restrictions (DeBoef and Keele 2008). By using an ECM, we can provide estimates of both the short-term and long-term effects of explanatory variables and can much better understand how the effects of explanatory variables are distributed over time. In the context of our analysis, when a shift in policy liberalism occurs, there can be a nearly immediate impact on public opinion, but the effects are also distributed over time such that the full effect is not felt all at once. An ECM provides the ability to model this type of relationship.[12]

We begin our analysis in Table 1 with three models of public mood and one model of a more specific measure of public opinion toward welfare spending. The first model in the table simply aims to establish a baseline representing previously developed models of public mood. The liberalism of public policy is included to account for the public's thermostatic response to government action (Wlezien 1995). We also account for general economic conditions by including measures of unemployment and inflation (Erikson, MacKuen, and Stimson 2002). In this first model, policy liberalism is the only statistically significant impact on public mood. Via the error correction component of the model, we see that public opinion shifts in a conservative direction in response to a liberal shift in public policy. However, general economic conditions are not statistically significant. Previous studies that have found effects of economic conditions have been based on quarterly data. It is quite possible that we see no effects for these variables because we use annual data due to our focus on economic inequality.[13] In the next two columns, we build on this baseline model in order to assess the response of the public to economic inequality.

In the second model, we continue to account for the public's thermostatic response to policy enactments while adding the Gini coefficient of family money income to the model. Unlike the first model in which absolute economic conditions did not affect public opinion, we see a statistically significant impact of income inequality on mass preferences. More specifically, we learn from this model that economic inequality reduces public mood liberalism, with this impact being spread over several time periods. The coefficient of -16.22 tells us that public opinion liberalism declines by over 16 points in response to a one-unit increase in economic inequality. When the

[12] Using an ECM also minimizes the possibility of spurious results from a regression of an integrated or near-integrated series on another. Our dependent variable is, theoretically, a stationary process (Wlezien 1995). Unit root tests of public mood provide mixed results, meaning that there is some possibility that mood has a long memory. Using an ECM, then, also hedges against results driven by the time-series properties of mood since the first difference of mood is the dependent variable in an ECM. We have included a more detailed discussion of ECMs in a Supporting Information file available on the *AJPS* website.

[13] The coefficient estimates are consistent in direction with those from previous studies. The fact that the signs of the coefficients are as predicted by theory but are statistically insignificant points to the conclusion that annual data are too noisy to reliably estimate the effects of absolute economic conditions on the public mood.

TABLE 1 Economic and Policy Determinants of Public Mood Liberalism and Welfare Attitudes

	Dependent Variable			
Independent Variables	**(1) Δ Liberal Mood**	**(2) Δ Liberal Mood**	**(3) Δ Liberal Mood**	**(4) Δ Support Welfare**
Liberal Mood$_{t-1}$	−0.25***	−0.25***	−0.26***	
	(0.07)	(0.07)	(0.07)	
Support Welfare$_{t-1}$				−0.55***
				(0.16)
Δ Policy Liberalism$_t$	0.16	0.10	0.10	−0.24
	(0.11)	(0.10)	(0.10)	(0.42)
Policy Liberalism$_{t-1}$	−0.06*	−0.09***	−0.07*	−0.65***
	(0.04)	(0.02)	(0.03)	(0.22)
Δ Income Inequality$_t$		−27.07	−29.56	−175.70
		(34.61)	(37.59)	(122.55)
Income Inequality$_{t-1}$		−16.22*	−18.00*	−152.17**
		(8.92)	(9.44)	(65.71)
Δ Unemployment$_t$	−0.00		−0.01	
	(0.38)		(0.38)	
Unemployment$_{t-1}$	0.04		0.10	
	(0.25)		(0.26)	
Δ Inflation$_t$	−0.12		−0.13	
	(0.19)		(0.19)	
Inflation$_{t-1}$	−0.08		−0.13	
	(0.18)		(0.17)	
Constant	15.41***	21.70***	22.99***	0.80***
	(4.54)	(5.57)	(6.31)	(0.30)
	54	54	54	33
Adj. R^2	0.20	0.28	0.24	0.26
Breusch-Godfrey	0.88	0.71	0.60	0.24

Note: Entries are OLS regression coefficients with standard errors in parentheses. Breusch-Godfrey is the significance level of a Lagrange Multiplier test for residual autocorrelation with one lag included in the test. The null hypothesis is no autocorrelation.
Two-Tailed Significance Levels: *p ≤ .10; **p ≤ .05; ***p ≤ .01.

long-run multiplier effect is fully accounted for, the total impact is −64.88 (−16.22/0.25). Given that the range of public mood is 0 to 100, the size of this effect appears to be enormous, but we must keep in mind that the Gini coefficient has a theoretical range of 0 to 1, meaning that a one-unit change in economic inequality never occurs in the data. To gain a better handle on the substantive size of this effect, it is more useful to calculate the effect of a shift in inequality corresponding to the observed range of the Gini coefficient in our data, which is 0.35 to 0.44. An increase in inequality representing a shift from the bottom of its observed range to the top would produce a decline in public mood liberalism of 1.46. The total long-run impact would be −5.84. This is a substantial effect given that mood moves up or down on average just 1.69 points each year (and that its range is approximately 20 points, from 49.6 to 69.2). The public mood responds to changes in economic inequality, and it does so in a manner consistent with the Benabou hypothesis—public opinion becomes more conservative as economic inequality increases.

The third model replicates the analysis in Model 2 while controlling for inflation and unemployment as indicators of absolute economic conditions. While economic conditions did not matter in Model 1, we want to be confident that our result in Model 2 linking inequality to public opinion is not simply capturing an effect of

general economic conditions. The third model shows that the results discussed above are robust. In fact, the coefficient estimates from Model 2 and Model 3 are almost identical.

Finally, in the fourth model we change the dependent variable analyzed from the general preferences captured by public mood to public opinion specifically toward welfare spending.[14] The dependent variable is coded such that positive values indicate more support for welfare spending. While we believe that it is appropriate to apply the theoretical models discussed earlier to public mood, we want to be certain that our results are not an artifact of using a measure of public opinion spanning multiple domains. In fact, the inverse relationship between rising inequality and support for government expansion is not only replicated in this model, but also the results become even stronger here than they were in the models of mood. Controlling for general policy outputs, when inequality rises, the public shows less support for welfare spending.

To this point, we have seen that when analyzing macro public opinion, mass preferences respond to shifts in economic inequality. Consistent with the predictions of the Benabou model, the public becomes less supportive of government expansion when income inequality rises. In the next stage of our analysis, we turn to an examination of public opinion that is disaggregated by income group. What we seek to learn is whether the patterns observed in the mass public as a whole are mirrored when we examine just those at the top or the bottom of the income distribution. This step in the analysis is essential since one of the key implications of the unequal democracy perspective is that inequality has in part risen due to heterogeneity of government responsiveness across income groups. And, while Benabou's model predicts that inequality produces conservative sentiment, this prediction is not consistent for all income groups. If we examine the predictions of Benabou's model by income level, the model suggests that as inequality rises, lower-income voters should maintain or increase support for redistribution while high-income voters increase opposition to redistribution. These patterns of opinion movement combined with the expectations of the unequal democracy thesis would explain the steady increase in inequality over the past several decades.

[14]The question we analyze comes from the General Social Survey from 1973 to 2006 (years in which the question was not asked are interpolated). The question asked: We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether you think we're spending too much money on it, too little money, or about the right amount. Welfare, are we spending too much, too little, or about the right amount on welfare? We calculate the percentage replying "too little" of those responding either "too little" or "too much."

For the analysis in Table 2 we re-created Stimson's mood measure for income subgroups. In order to do this, we considered all survey items from Stimson's original measure that were part of a survey in which income data were gathered and for which individual-level data are available (these data come from the Roper Center, the General Social Survey, and the American National Election Study). Then, we categorized respondents by income level and retained the two categories that roughly correspond to the bottom and top income quintile. We calculated survey marginals for each income group and then applied Stimson's dyadic algorithm to the two sets of survey marginals, producing measures of public mood liberalism for low- and high-income categories. In Table 2 we re-create the models estimated in the previous table with an analysis here of public opinion that has been disaggregated by income category.[15]

The most important message of this table is that high- and low-income groups respond in remarkably similar ways to shifts in economic inequality. The first two models estimated in Table 2 compare the effect of economic inequality on the preferences of the rich and the poor while controlling only for previous policy enactments. The results here are parallel with the earlier models examining the mood of the public as a whole. When inequality rises, both the rich and the poor respond by asking for less government. The third and fourth models add controls for economic conditions identical to Model 3 of Table 1. Again, we see similar results for the preferences of the rich and the poor. Consistent with all earlier results, preferences respond in a conservative (liberal) direction to increases (decreases) in inequality.

While this is consistent with studies that point out similarity between the preferences of the rich and the poor (Enns and Wlezien 2011; Page and Jacobs 2009; Page and Shapiro 1992; Soroka and Wlezien 2008; Ura and Ellis 2008), it likely is surprising to many readers. *Any* decrease in support for government activity among the lowest income quintile would be surprising, but the fact that this group becomes *less* supportive of government when inequality *increases* contradicts the predictions of both the MR and Benabou models, which suggest that support for redistribution among the poor should either not change or become higher in response to an increase in income inequality.

Our aggregate findings support Benabou's prediction of a negative relationship between economic inequality

[15]Models in this table are estimated using the Prais-Winsten GLS estimator because initial estimation with OLS evidenced residual autocorrelation. GLS estimation is a reasonable solution to residual autocorrelation when using models (such as ECMs) rooted in a distributed lag framework (Keele and Kelly 2006).

TABLE 2 Models of Public Mood Liberalism by Income Level

	Δ Liberal Mood			
Independent Variables	**Low Income**	**High Income**	**Low Income**	**High Income**
Liberal Mood$_{t-1}$	−0.48***	−0.46***	−0.58***	−0.57***
	(0.12)	(0.11)	(0.14)	(0.13)
Δ Policy Liberalism$_t$	−0.16	0.07	−0.22	0.01
	(0.15)	(0.13)	(0.17)	(0.15)
Policy Liberalism$_{t-1}$	−0.28***	−0.24***	−0.26***	−0.23***
	(0.08)	(0.07)	(0.08)	(0.07)
Δ Income Inequality$_t$	−19.43	−46.76	−22.56	−41.01
	(53.05)	(42.99)	(55.18)	(44.13)
Income Inequality$_{t-1}$	−48.65**	−44.26**	−64.57**	−61.98**
	(22.23)	(21.09)	(25.97)	(24.38)
Δ Unemployment$_t$			0.14	−0.13
			(0.63)	(0.53)
Unemployment$_{t-1}$			−0.33	−0.45
			(0.47)	(0.46)
Δ Inflation$_t$			−0.46	−0.19
			(0.32)	(0.34)
Inflation$_{t-1}$			−0.39	−0.33
			(0.34)	(0.31)
Constant	50.25***	44.18***	66.00***	61.54***
	(14.91)	(12.93)	(19.56)	(17.02)
N	50	50	50	50
Adj. R^2	0.20	0.25	0.18	0.23
rho	0.19	0.32	0.17	0.33

Note: Entries are GLS (Prais-Winsten) coefficients with standard errors in parentheses.
Two-Tailed Significance Levels: *p ≤ .10; **p ≤ .05; ***p ≤ .01.

and mass support for government expansion. The income group analysis does not, however, comport with the causal dynamics of the model. Instead of maintaining or increasing support for government activity when inequality rises, low-income opinion responds to inequality in parallel with high-income opinion. One possible explanation for this anomalous finding is that the mass public, particularly the lowest income group, may not accurately assess changes in distributional outcomes. If we are finding linkages between distributional outcomes and public opinion, but public perceptions of distributional outcomes are not, at least in broad strokes, accurate, this would limit the conclusions that we can reach based on the above empirical analysis. This would be all the more true if we were to find that the rich and the poor reach fundamentally divergent assessments of distributional outcomes.

We address this question using GSS data from two snapshots in time spread 13 years apart. In 1987 and 2000, the GSS included a social equality module that contained a question about perceived inequality. Specifically, the question asks respondents to identify how much they think people in various occupations earn each year.[16] Of the occupations that were listed in both 1987 and 2000, we calculate the ratio of how much a respondent thought the highest paid and lowest paid occupation earned (the occupations could differ across respondents). This is perceived inequality. We then computed the average perceived inequality for respondents in 1987 and 2000 for all respondents and for respondents disaggregated by lowest

[16]Occupations included in both surveys were mason, doctor, bank clerk, shop owner, CEO, skilled worker, farm worker, secretary, bus driver, unskilled worker, member of federal cabinet, lawyer, sales clerk, owner of large factory, and Supreme Court justice. We also calculated the results excluding CEOs (reported in Supplementary Information file). The results remain substantively similar, though perceived inequality is understandably lower if CEOs are excluded from the calculation.

Table 3 Perceptions of Inequality, 1987 and 2000

	Ratio of Perceived Highest to Lowest Paid Occupations	
Population Group	**1987**	**2000**
All Respondents	20.03	74.24
Bottom Income Quintile	18.74	260.23
Top Income Quintile	24.22	35.80

and highest income quintile. The results are reported in Table 3.

The most important result from this table is how perceptions of inequality have changed over time. Between 1987 and 2000, inequality increased dramatically, and we see that perceptions of inequality captured this general trend. Whether we look at all respondents, the rich, or the poor, perceived inequality increased during this period, just as actual inequality was on the rise. But when comparing the rich and the poor, we do see one important difference. The perception of inequality among the poor increased far more over this 13-year period than perceptions of inequality among the rich. Based on these results, the earlier connection that we observed between economic inequality and the public mood is not rooted in ignorance of increasing inequality. The mass public notices when inequality rises, and if anything the perceptions of the poor are more responsive to actual shifts in inequality than are the rich. *It is certainly not the case that those at the bottom become more conservative in response to increases in inequality because they do not notice what is actually happening.*

While the conservative response of the poor to rising inequality is not likely due to misperceptions regarding inequality, another possibility is that this result might reflect misperceptions about government policies to redress these inequities. For example, we know from previous studies that inequality increases during Republican presidencies (Bartels 2008; Kelly 2009), and it is quite possible that Republican presidents mold public opinion toward less support for redistribution (Jacobs and Shapiro 2000). This would generate an inverse relationship between inequality and liberal mood. The inclusion of policy liberalism as an explanatory variable controls, in part, for this possibility. Yet, we also reestimated the models from Tables 1 and 2 to explicitly include the party of the president (results provided in Supplementary Information file). Contrary to the expectations of the elite leadership hypothesis (but consistent with thermostatic models of opinion change [Wlezien 1995]), the effect of the president's party was negative; Republican (Democratic) presidents predict more liberal (conservative) preferences. Perhaps more importantly, we also saw that the effect of inequality on mood remained substantively unchanged. Even when the party of the president is included, income inequality has an inverse and significant relationship with liberal opinion for the population as a whole, the rich, and the poor.

These findings cast doubt on the alternative interpretation of our results rooted in presidential opinion leadership. Of course, these results do not mean that the opinions of low-income individuals are not influenced by elites. Bartels provides evidence of "confusion, uncertainty, and 'unenlightened self-interest' in public opinion about tax policy" (2008, 287). For a variety of reasons, the opinions of the poor may be the most uncertain and thus most susceptible to opinion manipulation. This is an important aspect of the "unequal democracy" perspective that comports with our findings and deserves future research. After all, if the poor and the wealthy update their opinions synchronously because the poor simply follow the rich, this is hardly good news for democracy.

Discussion and Conclusions

The analysis presented in this article leads to several conclusions with important implications for our understanding of American democracy. The article also raises important new questions for future research. First, we provide new evidence in the debate between the early Meltzer and Richard model of demand for government and Benabou's more recent work. Based on the MR model, we would expect to see a positive correlation between rising inequality and liberalism in public opinion. What we observe in the aggregate analysis is exactly the opposite and in line with the predictions of the Benabou model. When inequality in America rises, the public responds with increased conservative sentiment. Rather than generating opinion shifts that would make redistributive policies more likely, increased economic inequality produces a conservative response in public sentiment. The fact that the Benabou model accurately predicts a shift to the right in public opinion when inequality rises provides a partial solution to the debate between those in the dynamic democracy and unequal democracy camps regarding the role of political inequality in producing increased economic inequality in the United States. If the public responds to increasing inequality by shifting their preferences in a

conservative direction, increases in economic inequality are self-reinforcing in a way that is perfectly consistent with the dynamic democracy perspective. Economic inequality can beget yet more economic inequality as the unequal democracy proponents argue. But the mechanism for the self-reinforcing nature of economic inequality is not necessarily inherent inequities in representation.[17]

One of the implications of this result is that external, nonpolitical shocks that influence distributional outcomes can create massive implications for the path of economic inequality over time. If an event occurs that increases inequality, that increase in inequality leads to opposition to government intervention that could deal with the distributional consequences of this event, leading to a long cycle of rising inequality. By the same token, a shock that pushes inequality downward would produce liberal sentiment that could then be translated into redistributive policies (Erikson, MacKuen, and Stimson 2002; Kelly 2009), creating a downward cycle of inequality. Our results in this article could, in fact, partially explain why the path of inequality over the past 60 years has been characterized by long runs toward equality followed by long runs toward inequality.

While offering insight into the nature of public opinion and inequality, we have also uncovered ambiguity in the causal dynamics of such processes. Benabou's model accurately captures the linkage between income inequality and public opinion at the macro level, but our disaggregated analysis points to an additional puzzle—why do the rich and the poor respond similarly to changes in income inequality over time?[18] This question becomes relevant because a careful examination of the Benabou model shows that while its aggregate prediction is a negative association between rising income inequality and liberal public opinion, it suggests that this aggregate phenomenon is driven by those in the middle and top of the income distribution. As Benabou states, "[v]oters below the median desire the maximum feasible tax rate . . . " and " . . . variations in popular support for efficient increases in [redistribution] all take place above" the median (2000, 106). The fact that the rich and the poor both shift in a conservative direction as inequality increases is not anticipated even by the Benabou model and is inconsistent with some versions of the unequal democracy hypothesis.[19]

While explaining this congruence in the attitude dynamics of the rich and the poor is a different research question than the one we set out to examine and is therefore beyond the scope of this article, we do have some conjectures about this phenomenon that should provide fruitful avenues for future research. We have already presented evidence that the rich and the poor have both noticed rising inequality in the United States. Thus, parallelism does not occur because the perceptions of rich and poor respond differently to distributional realities. Both groups notice changes in inequality, and the response to this perception is the same.

Despite the fact that parallelism is not driven by lack of information about income inequality, we think it is possible that the way information about distributional outcomes is framed is important. This idea is rooted in Gilens's (2000) focus on media frames in his insightful analysis of welfare attitudes in the United States. Part of his argument is that during good economic times news stories focus on individualism (enhancing opposition to welfare) and during bad economic times stories emphasize people being down on their luck (enhancing support for welfare).[20] Given that rising inequality since the 1970s has been driven in large part by gains at the top of the income distribution, media frames over this period may have increasingly emphasized stories of individualism, thus generating a negative link between rising inequality and public opinion liberalism. The decline in inequality prior to the 1970s, by contrast, was driven primarily by increasing incomes at the bottom of the income distribution and may have generated stories emphasizing government's role in education and job creation. This could explain why declining inequality up to the 1970s pushed public opinion in a liberal direction. The connections we have observed between economic inequality and general public opinion could be viewed as quite consistent with Gilens's earlier work on specific attitudes toward welfare, especially his conclusion that "[t]he evidence indicates the calculations of individual economic self-interest play little role in shaping Americans' welfare policy preferences and cannot account for the public's desire to cut back on welfare spending" (Gilens 2000, 42).

[17]There is certainly increasing evidence that there are inherent inequities in the American democratic system, and we do not dispute these inequities or their importance. We simply believe that ascribing the steady rise in economic inequality to the absence of democratic responsiveness is not supported by the data.

[18]We are the first to demonstrate that the reported preferences of the rich and poor respond in a similar way to changes in economic inequality, but we are certainly not the first to identify parallelism in the dynamics of public opinion by income group (see Page and Shapiro 1992; Soroka and Wlezien 2008; Stimson 2009; Ura and Ellis 2008).

[19]Though to the extent that the expressed preferences of the poor are the product of misinformation from economic and political elites, the results here would still represent a lack of power for the poor and would remain consistent with at least some versions of the unequal democracy perspective.

[20]Kellstedt (2003) provides a related argument about media frames and racial attitudes, which are intimately tied together with welfare attitudes.

Our goal here is not to fully develop this argument, but simply to point out that media frames may act as an intermediary between distributional outcomes and public opinion. If it were the case that mass preferences moved over time both in the aggregate and by income level in the way predicted by either the MR or Benabou model, this discussion would not be necessary. As it is, however, the Benabou model fits perfectly with our aggregate-level analysis, but breaks down when public opinion is analyzed by income level. If our conjecture that media framing plays a role in linking distributional outcomes to public opinion is correct, future research needs to account for this factor in order to develop a complete understanding of inequality and opinion formation, including an explanation for the public's parallel response to income inequality across income groups. Importantly, however, the media framing hypothesis does not cast doubt on the validity or the robustness of the link between economic inequality and public opinion that we have reported here. In the scenario we have outlined, media frames provide an intervening variable that provides the mechanism linking income inequality to public opinion, but it does not displace inequality as an influence on public opinion.[21]

One further caveat is also in order as we discuss the implications of our analysis. When we analyze the preferences of the rich, we are unable to include the preferences of "super-rich" individuals because the inclusion of these individuals is not common in national sample surveys. Neither are we able to assess the preferences of interest groups that represent the wealthy. Analyzing the preferences of these individuals may or may not change the picture presented in our analysis. If the preferences of the very top of the income distribution respond differently to shifts in inequality, we think it is most likely that they shift even more strongly in the conservative direction than the opinions of the "rich" and "poor" respondents in our analysis. This could produce greater distinctions between the rich and the poor in terms of the magnitude of their conservative response to rising inequality (as opposed to the nearly identical coefficients for the rich and the poor reported in Table 2). And it may also be that those at the very top are controlling actors when it comes to distributional politics. Economic and political elites may be able to shape the opinions of the poor through distraction and/or misinformation (Jacobs and Shapiro 2000), perhaps even giving rise to a form of false consciousness among the poor. Clearly, it would be very useful to extend our analysis to include more data on very rich individuals as well as data on interest groups representing the interests of the wealthy (for related analyses in this vein, see Hacker and Pierson 2005; Jacobs and Page 2005).

These caveats aside, we have shown that public opinion moves in a conservative direction in response to income inequality. This conservative shift in sentiment in response to rising inequality occurs among both the rich and the poor. In fact, if politicians looked to *changes* in preferred welfare spending or *changes* in global policy preferences, it simply would not matter whether they noticed the most or least wealthy Americans; their preferences move in tandem and respond to economic inequality similarly over time. Even in the context of a democratic system that responds to changes in public opinion, it is possible for rising inequality to reproduce itself over time. While this article has answered many questions and raised others, what is clear from our work is that the self-reinforcing nature of economic inequality is real, and that we must look beyond simple defects in the policy responsiveness of American democracy to understand why this is the case.

[21] Another possibility is that the public mood is responding, at least in part, to omitted variables that correlate with inequality. McCarty, Poole, and Rosenthal (2006) show, for example, that congressional polarization and the immigration rate are almost perfectly correlated with inequality in the United States. Given the near-identical movements of these three series, statistically it is not possible to parcel out separate effects. We believe, however, that the possibility that the public mood is responding to factors correlated with inequality does not alter the substantive conclusions of this article. Regardless of the causal mechanism, when inequality rises, public support for redistribution decreases and this decrease occurs among all income groups. Furthermore, if the public is responding to polarization or immigration instead of inequality, this possibility further calls into question the prominent economic models of redistribution, which implicitly assume the public notices and responds to inequality. In essence, the causal ambiguity reinforces a central argument of this article; the public may not respond to inequality the way some economic models assume.

References

Bartels, Larry M. 2006. "Is the Water Rising? Reflections on Inequality and American Democracy." *PS: Political Science and Politics* 39(1): 39–42.

Bartels, Larry M. 2008. *Unequal Democracy: The Political Economy of a New Gilded Age*. Princeton, NJ: Princeton University Press.

Bassett, William F., John P. Burkett, and Louis Putterman. 1999. "Income Distribution, Government Transfers, and the Problem of Unequal Influence." *European Journal of Political Economy* 15(2): 207–28.

Benabou, Roland. 2000. "Unequal Societies: Income Distribution and the Social Contract." *American Economic Review* 90(1): 96–129.

Bhatti, Yosef, and Robert S. Erikson. 2011. "How Poorly Are the Poor Represented in the US Senate?" In *Who Gets Represented?* ed. Peter K. Enns and Christopher Wlezien. New York: Russell Sage Foundation.

Borge, Lars-Eric, and J. Jørn Rattsø. 2004. "Income Distribution and Tax Structure: Empirical Test of the Meltzer-Richard Hypothesis." *European Economic Review* 48(4): 805–26.

Danziger, Sheldon, and Peter Gottschalk. 1995. *America Unequal*. New York: Russell Sage Foundation.

De Boef, Suzanna, and Luke Keele. 2008. "Taking Time Seriously." *American Journal of Political Science* 52(1): 184–200.

de Mello, Luiz, and Erwin R. Tiongson. 2006. "Income Inequality and Redistributive Government Spending." *Public Finance Review* 34(3): 282–305.

Durr, H. Robert. 1993. "What Moves Policy Sentiment?" *American Political Science Review* 87(1): 158–70.

Enns, Peter K., and Paul M. Kellstedt. 2008. "Policy Mood and Political Sophistication: Why Everybody Moves Mood." *British Journal of Political Science* 38(3): 433–54.

Enns, Peter K., and Christopher Wlezien. 2011. "Group Opinion and the Study of Representation." In *Who Gets Represented?* ed. Peter K. Enns and Christopher Wlezien. New York: Russell Sage Foundation.

Erikson, Robert S., Michael MacKuen, and James A. Stimson. 2002. *The Macro Polity*. New York: Cambridge University Press.

Gilens, Martin. 2000. *Why Americans Hate Welfare: Race, Media, and the Politics of Antipoverty Policy*. Boulder, CO: Westview Press.

Gilens, Martin. 2005. "Inequality and Democratic Responsiveness." *Public Opinion Quarterly* 69(5): 778–96.

Gilens, Martin. 2009. "Preference Gaps and Inequality in Representation." *PS: Political Science and Politics* 42(2): 335–41.

Gilens, Martin. 2011. "Policy Consequences of Representational Inequality." In *Who Gets Represented?* ed. Peter K. Enns and Christopher Wlezien. New York: Russell Sage Foundation.

Hacker, Jacob, and Paul Pierson. 2005. *Off Center: The Republican Revolution and the Erosion of American Democracy*. New Haven, CT: Yale University Press.

Hibbs, Douglas A., Jr. 1987. *The American Political Economy: Macroeconomics and Electoral Politics*. New York: Cambridge University Press.

Hibbs, Douglas A., Jr., and Christopher Dennis. 1988. "Income Distribution in the United States." *American Political Science Review* 2(2): 467–89.

Jacobs, Lawrence R., and Benjamin I. Page. 2005. "Who Influences U.S. Foreign Policy." *American Political Science Review* 99(1): 107–23.

Jacobs, Lawrence R., and Robert Y. Shapiro. 2000. *Politicians Don't Pander*. Chicago: University of Chicago Press.

Jacobs, Lawrence, and Theda Skocpol, eds. 2005. *Inequality and American Democracy: What We Know and What We Need to Learn*. New York: Russell Sage Foundation.

Keele, Luke, and Nathan J. Kelly. 2006. "Dynamic Models for Dynamic Theories: The Ins and Outs of Lagged Dependent Variables." *Political Analysis* 14(2): 186–205.

Kellstedt, Paul M. 2003. *The Mass Media and the Dynamics of American Racial Attitudes*. New York: Cambridge University Press.

Kelly, Nathan J. 2005. "Political Choice, Public Policy, and Distributional Outcomes." *American Journal of Political Science* 49(4): 865–80.

Kelly, Nathan J. 2009. *The Politics of Income Inequality in the United States*. New York: Cambridge University Press.

Lasswell, Harold. 1958. *Politics: Who Gets What, When, How*. Cleveland, OK: Meridian Books.

Lenski, Gerhard. 1966. *Power and Privilege: A Theory of Social Stratifications*. New York: McGraw-Hill.

Lipset, Seymour Martin. 1981. *Political Man: The Social Bases of Politics*. Baltimore: Johns Hopkins University Press.

McCarty, Nolan, Keith Poole, and Howard Rosenthal. 2006. *Polarized America: The Dance of Ideology and Unequal Riches*. Cambridge, MA: MIT Press.

Meltzer, Alan H., and Scott F. Richard. 1981. "A Rational Theory of the Size of Government." *Journal of Political Economy* 89(4): 914–27.

Meltzer, Alan H., and Scott F. Richard. 1983. "Tests of a Rational Theory of the Size of Government." *Public Choice* 41(3): 403–18.

Milanovic, Branko. 2000. "The Median Voter Hypothesis, Income Inequality, and Income Redistribution: An Empirical Test with the Required Data." *European Journal of Political Economy* 16(3): 367–410.

Moene, Karl Ove, and Michael Wallerstein. 2001. "Inequality, Social Insurance, and Redistribution." *American Political Science Review* 95(4): 859–74.

Moene, Karl Ove, and Michael Wallerstein. 2003. "Earnings Inequality and Welfare Spending: A Disaggregated Analysis." *World Politics* 55(4): 485–516.

Page, Benjamin I., and Lawrence R. Jacobs. 2009. *Class War? What Americans Really Think about Economic Inequality*. Chicago: University of Chicago Press.

Page, Benjamin I., and Robert Y. Shapiro. 1992. *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. Chicago: University of Chicago Press.

Page, Benjamin I., and James Roy Simmons. 2000. *What Government Can Do: Dealing with Poverty and Inequality*. Chicago: University of Chicago Press.

Perotti, Roberto. 1996. "Growth, Income Distribution, and Democracy: What the Data Say." *Journal of Economic Growth* 1(1): 149–88.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States, 1913–1998." *Quarterly Journal of Economics* 118(1): 1–39.

Soroka, Stuart N., and Christopher Wlezien. 2008. "On the Limits of Inequality in Representation." *PS: Political Science and Politics* 41(2): 319–27.

Stimson, James A. 1999. *Public Opinion in America: Moods, Cycles, and Swings*. 2nd ed. Boulder, CO: Westview Press.

Stimson, James A. 2009. "Perspectives on Unequal Democracy: The Political Economy of the New Gilded Age." *Perspectives on Politics* 7(1): 151–53.

Ura, Joseph Daniel, and Christopher R. Ellis. 2008. "Income, Preferences, and the Dynamics of Policy Responsiveness." *PS: Political Science and Politics* 41(4): 785–94.

Wlezien, Christopher. 1995. "The Public as Thermostat: Dynamics of Preferences for Spending." *American Journal of Political Science* 39(4): 981–1000.

Wlezien, Christopher, and Stuart Soroka. 2011. "Inequality in Policy Responsiveness?" In *Who Gets Represented?* ed. Peter K. Enns and Christopher Wlezien. New York: Russell Sage Foundation.