

Economic Context and Americans' Perceptions of Income Inequality*

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Objectives. The increase in income inequality in the United States over the past three decades has been well documented, though Americans differ in their perceptions of rising inequality. In this article we investigate the degree to which context shapes individuals' perceptions of rising income inequality in the United States. *Methods.* Using objective data on state-level income inequality and survey data from the 2004 American National Election Study (ANES), we estimate a series of ordered logit models depicting individuals' perceptions of rising income inequality as a function of state income inequality and various control variables. *Results.* We find that individuals residing in states with high income inequality are more likely than other individuals to perceive large increases in national income inequality over the past 20 years. We also consider possible interaction effects for state income inequality with political knowledge and family income, but our evidence suggests that such effects are limited to family income. We find that individuals from lower income strata are more likely to translate state income inequality into inequality perceptions than those with higher incomes. *Conclusion.* State inequality context significantly shapes individuals' perceptions of rising income inequality, particularly among those with lower incomes.

A large literature documents the substantial rise in income inequality in the United States since the early 1970s (Morris and Western, 1999; Gottschalk and Danziger, 2005; Jacobs and Skocpol, 2005; Bartels, 2008; McCall, 2005; Piketty and Saez, 2003; Goldin and Katz, 2008). During this period, the income gap between individuals at different income levels in the United States has grown faster than that in other advanced Western democracies (Bartels, 2008; Jacobs and Skocpol, 2005). Political scientists have begun to consider the political effects of income inequality, including inequality in responsiveness by elected officials to citizens with lower incomes

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(Bartels, 2005, 2008), declines in political trust (Uslaner and Brown, 2005), greater polarization in the mass public and in the U.S. Congress (McCarty, Poole, and Rosenthal, 2006; Garand, forthcoming), diminished levels of voter participation (Leighley and Nagler, 2006; Garand and Nguyen, 2008), and general shifts in political equality (Jacobs and Skocpol, 2005; Dahl, 2006). Still other scholars have explored the political underpinnings of income inequality (Bartels, 2008).

The subject of public opinion toward income inequality has quickly become an active research area in political science, undoubtedly because public opinion concerning inequality is believed to affect both electoral outcomes and public policy outputs. Scholars find that Americans differ in their levels of concern about increasing income inequality, and they ascribe observed differences to determinants such as individuals' political ideology, political information, education level, and media exposure (Bartels, 2008; McCall, 2005; McCall and Kenworthy, 2008). Other scholars focus on the effects of public opinion toward income inequality on policy attitudes (Bartels, 2008) and various forms of political behavior, such as voter turnout (Garand and Nguyen, 2008; Galbraith and Hale, 2008a) and vote choice (Galbraith and Hale, 2008a).

In one of the most important recent works on income inequality, Bartels (2008) explores both the political determinants and effects of rising income inequality. Much of his work is devoted to the micro level and is focused on public perceptions of rising income inequality, as well as public opinion on policies related to the distribution of incomes in U.S. society. In this article, we build on one component of Bartels's work to explore the degree to which Americans' perceptions of rising income inequality reflect actual levels in income inequality in their home state contexts. Specifically, we address the question of whether or not the level of inequality in the state contexts within which Americans reside affects their perceptions of rising income inequality. To accomplish this, we match data on state income inequality with survey data from the 2004 American National Election Studies (ANES). We posit that individuals who reside in states with high levels of income inequality are more likely to perceive an upward trend in income inequality. Moreover, we explore whether individuals differ systematically in their responsiveness to levels of income inequality in their home states. We speculate that individuals from lower income strata and with higher levels of political knowledge are more likely to translate state income inequality into perceptions of rising inequality.

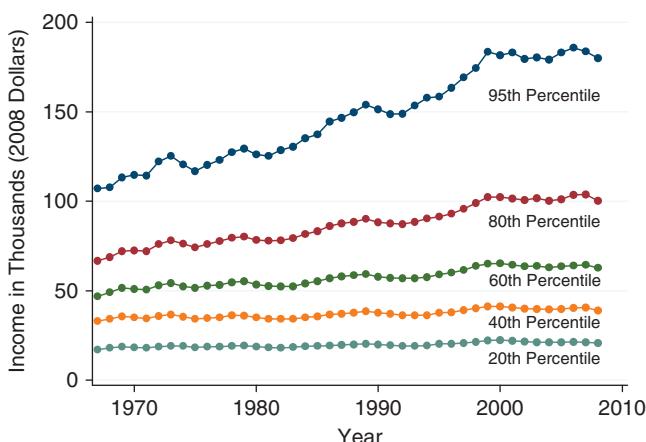
The plan of this article is as follows. First, we examine patterns of rising income inequality in the past four decades in the United States. Second, we briefly review previous public opinion studies on income inequality. Third, we discuss the theoretical relevance of the contextual effect of income inequality on public perceptions relating to the distribution of incomes in the United States. Fourth, we discuss our hypotheses and discuss the contextual and public opinion data sets used to test these hypotheses. Finally, we report and discuss our empirical analysis and provide some concluding remarks.

Rising Income Inequality in the United States

The disparity between rich and poor people in the United States has risen since the 1970s. The real income share for individuals in different income strata had stayed constant for three decades following the end of World War II, but around 1980 the income share of the wealthiest Americans began to escalate rapidly and diverge increasingly from the shares of other income groups (see Bartels, 2008:11). To illustrate, in Figure 1 we present the trends from 1967 to 2008 in the real income (in 2008 dollars) for different income percentiles. As one can see, real income changes increase as one moves from lower-to-higher income percentiles, and the high-low income gap has increased over time. From 1967 to 2008, those in the 95th percentile increased their real incomes from \$107,091 to \$180,000, a real income increase of 68.1 percent over this time period. On the other hand, real income increases are smaller for the 80th percentile (from \$67,735 to \$100,240, or an increase of 50.2 percent), 60th percentile (from \$46,799 to \$62,725, an increase of 34.0 percent), 40th percentile (from \$32,973 to \$39,000, an increase of 18.3 percent), and 20th percentile (from \$16,909 to \$20,712, an increase of 22.5 percent). The pattern is even starker using higher income percentiles. According to Bartels (2008:10–11), the real income (in 2006 dollars) of the 99.99th percentile of taxpayers increased five-fold between 1981 and 2005, and over the same time period it tripled for the 99.9th percentile and doubled for the 99th percentile of taxpayers.

FIGURE 1

Income, in Thousands of Dollars (2008 Dollars), by Selected Income Percentiles, 1967–2008



NOTE: Each line represents the income associated with the relevant income percentile.

SOURCE: U.S. Census Bureau (2009).

Clearly, incomes have grown at a faster rate for individuals at higher income percentiles in the United States.

It is also noteworthy that the disparity in income in the United States is “much sharper and has grown faster than in other advanced industrial Western democracies” (Jacob and Skocpol, 2005:5). Since the early 1980s, the top 0.1 percent income share in the United States increased rapidly relative to that of both Britain and France, making the United States a country with far more unequal incomes (Jacobs and Skocpol, 2005:6).

The rise in income inequality is seen by many scholars and political observers as having dire effects on the workings of democracy and the U.S. political system. Jacobs and Skocpol (2005:1) provide a particularly pessimistic view.

Generations of Americans have worked to equalize citizen voice across lines of income, race, and gender. Today, however, the voices of American citizens are raised and heard unequally. The privileged participate more than others and are increasingly well organized to press their demands on government. Public officials, in turn, are much more responsive to the privileged than to average citizens and the least affluent. Citizens with lower or moderate incomes speak with a whisper that is lost on the ears of inattentive government officials, while the advantaged roar with a clarity and consistency that policy makers readily hear and routinely follow.

Public opinion on income inequality can be seen as a bridge connecting income inequality and the workings of democracy. Mass opinion is a paramount concern in democracies not only because it affects electoral outcomes directly, but also because it can exert a direct influence on public policy outputs (cf. Erikson, MacKuen, and Stimson, 2002). Perceptions among the mass public of rising income inequality can be an important driver of public opinion on matters relating to the income distribution, and this in turn has the potential of influencing public policy.

Perceptions of Income Inequality in the Mass Public

Scholars have relied on a variety of survey sources to study Americans' perceptions of income inequality. The American National Election Survey (ANES), General Social Survey (GSS), International Social Survey Program (ISSP), Louis Harris Poll, Gallup Poll, and the Civic Engagement and Inequality Survey by Syracuse University all include survey questions asking people about their perceptions on rising income inequality (McCall, 2005, 2007; McCall and Kenworthy, 2008; Bartels, 2008).

In response to the survey questions asked about their perception on rising income inequality, the majority of the respondents agree that the gap between rich and poor in the United States is large and that it is growing. However, some political scientists consider the high percentage of agreement a product of “agreement bias” (McCall and Kenworthy, 2008; Osberg and

Smeeding, 2006). One reason for the high percentage of “agree” answers, they argue, is that “survey respondents have consistently been quite likely to endorse the notion that inequality is increasing, regardless of actual economic trends” (Bartels, 2008:144).

One way to examine Americans’ concern for inequality is to look at the change through time, and some scholars have relied on this approach. Survey data from both the GSS and ISSP surveys show a significant drop in 1996 and 2000 in the percentage of people who perceived a greater gap between rich and poor. In other words, fewer Americans are aware of the rising level of income inequality in 1996 and 2000 than in 1992 or 1987, although the actual gap between high- and low-income individuals became much larger during that period (McCall, 2003:37). The Harris Poll shows a similar pattern: although actual levels of income inequality increased substantially since the 1970s, the aggregate percentage of those agreeing with the statement that the “rich get richer and the poor get poorer” remained very stable and even decreased after 1995 (Bartels, 2008:146). Considering the apparent inconsistency between actual income inequality and individuals’ perception of income inequality in the late 1990s, some scholars claim that individuals’ awareness of the relative fortunes of the rich and the poor may have been overstated (Bartels, 2008).

Is it possible that actual levels of income inequality are unrelated or only weakly related to individuals’ perceptions of income inequality? We suggest that what determines Americans’ perceptions of income inequality is a subject worthy of systematic research. Scholars have documented the effects of variables such as political knowledge, ideology, and education on perceptions of income inequality, but to date they have not explored the effects of contextual variables in shaping individuals’ perceptions of income inequality. The connection between actual levels of income inequality in Americans’ contexts and their individual perceptions of income inequality warrants empirical investigation.

Why is the Context So Important?

Why do some people perceive rising income inequality, while others do not? Previous statistical analyses show that (1) political ideology, party identification, political information levels, and education levels affect individuals’ perception of income inequality (Bartels, 2008; McCall, 2005), and (2) political information levels have differential effects on perceptions of income inequality for liberals and conservatives (Bartels, 2008). In all previous studies of individuals’ perceptions of income inequality, scholars have focused on individual-level attributes as explanatory variables, and individuals’ context has drawn relatively little attention. There is reason to think that context can provide politically relevant information that can shape individuals’ attitudes about income inequality. As Zaller (1992) states, individuals tend to resist information that is inconsistent with their predis-

positions, but once the contextual information accumulates beyond a certain threshold point, individuals are more likely to change their perceptions and beliefs. This suggests that context can have an effect on people's perceptions, though such effects are not necessarily immediate.

For individuals who reside in an environment characterized by high income inequality, we suggest that it is likely that these persons will observe rising economic inequality in daily life by passing through contrasting rich and poor neighborhoods, by reading newspaper stories or watching television news stories about increasing levels of economic disparity, or by conversing with friends, co-workers, and neighbors about mounting inequality in the local community. When all the contextual information accumulates to a certain level in their minds, it is likely that they will change their perceptions about the prevailing level of income inequality. Context can provide different kinds of information by signaling individuals about the condition of their environment and then generating changes in perceptions about those conditions. There are multiple ways in which contextual information can be conveyed to individuals. For instance, the salience of income inequality can be affected by contextual forces such as the news media. McCall (2005) provides evidence that there was a decrease in media coverage on income inequality stories from 1996 to 2000 nationwide, and this may explain the decrease in the percentage of people who perceived rising income inequality during that time period (McCall, 2005).

In this article, we take a first step in exploring whether or not the objective context plays a role in determining how people perceive rising income inequality. Simply, we suggest that the current inequality level in the individuals' contexts shapes their perceptions of rising income inequality in the United States. People who live in environments with a high level of income inequality are likely to be exposed to more information about inequality and are therefore more likely to perceive rising inequality.

Further, we suggest that different groups of people may be affected differently by contextual information and its associated triggers. For instance, rich and poor people differ in their economic interests, and they may differ in how sensitive their perceptions are to actual levels of income inequality. Individuals with high levels of political and economic knowledge may be more likely than less knowledgeable individuals to be exposed to information about income inequality and hence may be more likely to perceive the enlarging income gap. In this article we consider how differences across individuals shape the sensitivity of their inequality perceptions to objective levels of income inequality in their home state environments.

Hypotheses and Data

In this section, we describe our models of individuals' perceptions of income inequality. We base our models explicitly on those developed by

Bartels (2008) and test them using data from the 2004 ANES survey. We differ from Bartels, primarily, in our use of data on state income inequality to estimate the effects of objective economic inequality in individuals' home state contexts on their perception of rising income inequality. We are aware that there are many ways to operationalize the concept of context and to measure the level of contextual information with which individuals are confronted. The most direct way, we suggest, is to use an objective measure of the level of income inequality in individuals' environments. We use as our core contextual variables the Gini coefficient—a commonly used indicator of income inequality—measured at the state level.

Hypotheses

Our primary hypotheses relate the effects of state income inequality on individuals' perceptions of income inequality. We also consider how other variables may play a mediating role in shaping the magnitude of the effect of state income inequality on our dependent variable.

We begin with our hypothesis about the relationship between levels of income inequality in individuals' home states and perceptions of income inequality.

H₁: Individuals who reside in states with high levels of actual income inequality will be more likely to perceive rising income inequality than those who reside in states with lower levels of income inequality.

We suggest that individuals who reside in states with high levels of economic inequality relative to that of other states will generally be more likely to perceive that income inequality is on the rise and is a problem. For such individuals, there will be many signals in their environment—for example, signs of impoverished and wealthy neighborhoods, media coverage of inequality, and so forth—that will sensitize them to income inequality, increase the salience of inequality, and magnify the perception that inequality exists. We expect that individuals who are exposed to such signals will be more likely to perceive that income inequality is present and rising.

Of course, not all people will respond in the same way to variation in income inequality in their home state environments and it is important to consider the possible mediating effects of other variables. Regarding perceptions of inequality, some individuals are better situated to perceive their environment accurately and translate environmental conditions into accurate perceptions of those conditions. First, we suggest that general knowledge of politics should be related to the likelihood that individuals develop accurate perceptions of income inequality; simply, individuals with high levels of knowledge should be more likely to be aware of the level of income inequality in their home states, while those with low levels of knowledge

should be less likely to accurately perceive their environments. We contend that individuals with high levels of knowledge will be more likely to translate objective income inequality into their perceptions of inequality changes. Hence we hypothesize:

H₂: The relationship between state income inequality and individuals' perceptions of income inequality will be magnified with increases in individuals' levels of political knowledge.

Moreover, we suggest that not all individuals are equally motivated to seek out and use information about income inequality. Simply, individuals with low income are likely to be the most vulnerable economically when income inequality is high, and hence we expect that lower-income Americans will be most sensitive to higher levels of (and changes in) income inequality. On the other hand, individuals with high levels of income should be less concerned about income inequality and hence less sensitive to income inequality in their environments. We expect that low-income individuals are more likely to translate variation in income inequality into their perceptions of income inequality. Specifically:

H₃: The relationship between state income inequality and individuals' perceptions of income inequality will be magnified with decreases in individuals' income.

Data

To estimate our models of perceptions of rising income inequality, we use data from the 2004 American National Election Studies (ANES) survey. This survey includes variables representing perceptions of income inequality, as well as independent variables to be included in our models. Moreover, we measure our contextual variables using data from Guetzkow, Western, and Rosenfeld (2007), who utilize Current Population Survey (CPS) data to estimate state-level measures of income inequality for each state-year observation from 1963 to 2004.

In measuring our dependent variable, we rely on two items from the 2004 ANES survey. First, the 2004 ANES includes two questions about people's perceptions of income inequality.

1. "Do you think the difference in incomes between rich people and poor people in the US today is larger, smaller, or about the same as it was 20 years ago?"
2. "If it changes, does the difference become much larger, somewhat larger, much smaller, or somewhat smaller?"

We combine these two questions to create a five-category variable indicating individuals' perception of rising income inequality, ranging from -2

(change much smaller) to +2 (change much larger). A substantial majority of respondents respond that the gap between the rich and poor has become larger (31.6 percent) or much larger (49.2 percent); hence a total of 80.8 percent of respondents perceive that income inequality has increased over the past 20 years. On the other hand, only 3.2 percent are in the lowest two categories and hence perceive that income inequality is on the decline. The remaining 16 percent of respondents perceive no change in income inequality over the past 20 years.

We include several independent variables in our models. First and foremost, we include state income inequality as a measure of the inequality context within which individuals reside. To measure this variable, we rely on data compiled by Guetzkow, Western, and Rosenfeld (2007) on state-level Gini coefficients for the years 1963 to 2004. We use state Gini coefficients for 2004 as a measure of income inequality. The Gini coefficient has a possible range between 0 and 1; a low Gini coefficient indicates a more equal income or wealth distribution, while a high Gini coefficient indicates a more unequal distribution. For instance, 0 corresponds to perfect equality (i.e., everyone having exactly the same income) and 1 corresponds to perfect inequality (i.e., one person has all the income, while everyone else has zero income).

In addition, we include two interaction variables to capture the variable effects of state income inequality on perceptions of rising income inequality. First, we include an interaction for political knowledge and our state-level income inequality measure. As noted, we hypothesize that the effects of state income inequality on perceptions of rising inequality should be stronger among the politically knowledgeable, so we expect the coefficient for these interactions to be positive. We measure political knowledge as an additive scale ($\alpha = 0.662$) based on the number of correct identifications of the following political figures: (1) Dennis Hastert; (2) Richard Cheney; (3) Tony Blair; and (4) William Rehnquist. Second, we posit that the relationship between state income inequality and perceptions of rising income inequality should be higher among individuals with low income, all else equal. Hence, we create an interaction variable for household income and our measure of state income inequality; we expect that the coefficients for this variable will be negative, indicating that the effect of state income inequality will be diminished (enhanced) among those with high (low) incomes.

Finally, we include in our models a wide range of other independent variables thought to be related to perceptions of income inequality. On this point we borrow liberally from Bartels (2008), who estimates similar models to ours for data from the 2002 and 2004 ANES surveys. The key difference between our models and those of Bartels is that we include objective state income inequality, as well as interactions between state-level income inequality and two mediating variables that reflect variation in how state income inequality is translated into perceptions of rising state income inequality.

TABLE 1
Description of Variables

Variable	Description
Perceptions of income inequality change	Scale of perceptions of change in income inequality over past 20 years, ranging from -2 (much smaller) to $+2$ (much larger).
State income inequality	Gini coefficient of income inequality, measured at the state level in 2004. Source: Guetzkow, Western, and Rosenfeld (2007).
Household income	Income scale, ranging from 0 (low income) to 22 (high income).
Education	Education scale, ranging from 0 (1–8 years completed) to 6 (Ph.D. completed).
Race: black	1 = black; 0 = otherwise.
Ethnicity: Hispanic	1 = Hispanic; 0 = otherwise.
Gender: women	1 = female; 0 = male.
Region: South	1 = respondent from southern state; 0 = otherwise.
Region: West	1 = respondent from western state; 0 = otherwise.
Region: Northeast	1 = respondent from northeastern state; 0 = otherwise.
Urban residence	1 = respondent resides in urban community; 0 = otherwise.
Church attendance	Scale of respondent church attendance: 4 = every week; 3 = almost every week; 2 = once or twice a month; 1 = a few times a year; 0 = never.
Age	Respondent's age (in years).
Age squared	Respondent's age squared.
Partisan identification	Scale of partisan identification, ranging from 0 (strong Democrat) to 6 (strong Republican).
Liberal-conservative ideology	Scale of political ideology, ranging from 0 (strong liberal) to 6 (strong conservative).
Political knowledge	Scale of political knowledge, ranging from 0 (low knowledge) to 4 (high knowledge). This is an additive scale ($\alpha = 0.662$) based on number of correct identifications of four political figures: (1) Dennis Hastert; (2) Richard Cheney; (3) Tony Blair; and (4) William Rehnquist.

A summary of the variables used in our analysis is found in Table 1.

Empirical Analysis and Results

We begin by exploring the degree to which individuals' perceptions of rising income inequality over the past 20 years are responsive to actual levels of income inequality in their home states. We model perceptions of income inequality as a function of state income inequality, interactions that capture the variable effects of state income inequality across different levels

TABLE 2

Ordered Logit Estimates for Models of Individuals' Perceptions of Rising Income Inequality, 2004

Variable	(1)		(2)	
	<i>b</i>	<i>z</i>	<i>b</i>	<i>z</i>
State income inequality	7.665	2.09*	22.621	2.09*
State income inequality*Knowledge	—	—	4.904	1.54
State income inequality*Income	—	—	−1.579	−3.30***
Household income	−0.010	−0.63	0.643	3.34***
Partisan identification	−0.164	−3.30***	−0.164	−3.28***
Liberal-conservative ideology	0.295	3.00**	0.304	2.97**
Political knowledge	0.695	5.68***	−1.279	−0.98
Political knowledge*Ideology	−0.169	−4.20***	−0.175	−4.27***
Education	0.029	−0.51	−0.022	−0.39
Race: black	−0.075	0.27	0.028	0.10
Ethnicity: Hispanic	−0.011	−0.06	−0.007	−0.04
Gender: women	−0.055	−0.41	−0.085	−0.63
Region: South	−0.551	−4.46***	−0.542	−4.37***
Region: West	−0.142	−0.99	−0.153	−1.02
Region: Northeast	−0.083	−0.55	−0.093	−0.60
Urban residence	−0.098	−0.74	−0.088	−0.67
Church attendance	0.022	0.42	0.019	0.38
Age	−0.003	−0.10	−0.001	−0.05
Age squared	0.000	0.04	0.000	−0.02
<i>N</i>	881		881	
Pseudo <i>R</i> ²	0.038		0.041	
Wald <i>χ</i> ²	370.05		770.45	

***prob < 0.001; **prob < 0.01; *prob < 0.05.

NOTE: Z statistics are based on standard errors estimated with clustering by state. The constant terms are omitted from the table for the sake of brevity.

of political knowledge and income, and a range of control variables derived from Bartels's (2008) work.¹

In Model (1) of Table 2 we report the coefficients for our core model of contextual income inequality effects; this model includes just the state Gini coefficient variable, along with control variables but with no interaction variables. As one can see, we find a positive effect of state income inequality on individuals' perceptions of rising income inequality over the past 20 years (*b* = 7.665, *z* = 2.09). Simply, individuals who reside in states with high levels of income inequality are more likely to perceive (accurately) that

¹We note that integrating aggregate (state) data into an individual-level model raises some important statistical questions. Specifically, we cluster individual observations into states, and this means that the error terms are not independent for observations grouped within states. To correct for this, we report tests of statistical significance based on standard errors estimated with clustering by state (Primo, Jacobsmeier, and Milyo, 2007).

income inequality in the United States has been on the rise over the past 20 years. Further, we find some interesting patterns in the coefficients for several of our other independent variables. The coefficients for South region ($b = -0.551$, $z = -4.46$) and partisan identification ($b = -0.164$, $z = -3.30$) are both negative and significant, suggesting that southerners and Republicans are less likely to perceive increases in income inequality over the past 20 years. In addition, the coefficients for ideology, political knowledge, and the interaction between the two variables reveal a pattern that coincides with that reported by Bartels (2008). For liberals, increases in political knowledge result in a *higher* probability that respondents perceive increases in income inequality over the past 20 years; for conservatives, increases in political knowledge result in a *lower* probability that respondents perceive rising income inequality.

How strong is the effect of state income inequality on individuals' perceptions of rising income inequality? How does the effect of state income inequality compare to the magnitude of effects for other independent variables in the model? In Table 3 we generate predicted probabilities that an individual perceives that income inequality has become "much larger" across values of several independent variables, holding the values of other variables constant at their means. As one can see, as the state Gini coefficient of income inequality moves from its approximate low of 0.37 to its approximate high of 0.45, the proportion of individuals who express the perception that income inequality has become much larger increases by 0.136 (i.e., from 0.422 to 0.558), which is approximately the difference between southern and nonsouthern respondents (i.e., -0.136 , from 0.530 to 0.394). Other variables have stronger effects. Strong Republicans (0.365) are considerably less likely to perceive much larger inequality than strong Democrats (0.606), and liberal-conservative ideology differentiates both low- and high-knowledge individuals by 0.403 and -0.504 , respectively. Overall, while there are attitudinal variables that appear to have stronger effects on individuals' perceptions of inequality, objective state inequality has a discernible (and significant) effect.

Interaction Models

How do the effects of objective levels of state income inequality vary across different individual-level attributes? In Table 2, Model (2) we report results for a model that includes interactions for our state income inequality contextual variable with individuals' political knowledge and household income, respectively. Our results suggest strong support for our interaction hypothesis relating to income, but little support for our interaction hypothesis relating to political knowledge. Regarding the effects of state income inequality and its interactions with knowledge and income, we first find that the coefficient for state income inequality is positive and

TABLE 3

Predicted Probabilities for Perceptions that Income Inequality Has Become "Much Larger" Over Past 20 Years, by Selected Independent Variables, 2004

Variable	Value	Probability	High-Low Difference
State income inequality	0.375	0.422	0.136
	0.38	0.431	
	0.39	0.450	
	0.40	0.469	
	0.41	0.489	
	0.42	0.507	
	0.43	0.527	
	0.44	0.546	
	0.446	0.558	
Partisan identification	0 (Strong Democrat)	0.606	-0.241
	1	0.566	
	2	0.526	
	3	0.485	
	4	0.444	
	5	0.404	
	6 (Strong Republican)	0.365	
South	0 (Non-South)	0.530	-0.136
	1 (South)	0.394	
Liberal-conservative ideology (low knowledge)	0 (Strong liberal)	0.217	0.403
	1	0.271	
	2	0.333	
	3	0.402	
	4	0.474	
	5	0.548	
	6 (Strong conservative)	0.620	
Liberal conservative ideology (high knowledge)	0 (Strong liberal)	0.817	-0.504
	1	0.753	
	2	0.676	
	3	0.588	
	4	0.493	
	5	0.400	
	6 (Strong conservative)	0.313	

NOTE: The predicted probabilities represent the mean probability that individuals in each category respond that income inequality has become "much larger" over the past 20 years. These predicted probabilities are based on the ordered logit results reported in Table 2, holding all other independent variables constant at their means. The "high-low difference" is the difference in predicted probabilities for the highest and lowest values on each independent variable.

statistically significant in a one-tailed test ($b = 22.621$, $z = 2.09$). This coefficient represents the effect of state income inequality on perceptions of rising inequality for those individuals who score 0 on both the political

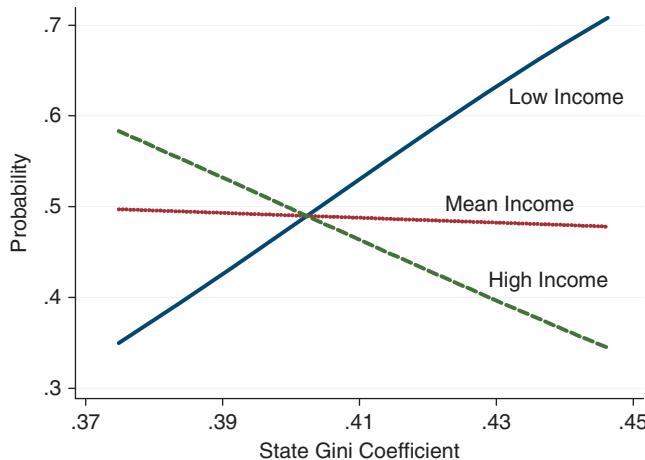
knowledge and income variables. For low-income, low-knowledge individuals, increases in state income inequality result in a greater probability that they will perceive that income inequality has been on the rise over the past 20 years. Moreover, we find a strong interaction effect for state income inequality and household income ($b = -1.579$, $z = -3.30$); this coefficient indicates that, as income *increases*, the effect of state income inequality on perceptions of rising income inequality *decreases*. Hence it appears that individuals with *lower* incomes are more sensitive to the income distribution in their state environments and hence more likely to translate objective state income inequality into their subjective perceptions that income inequality has been on the increase over the past 20 years. On the other hand, the interaction coefficient for state income inequality and political knowledge does not achieve standard levels of statistical significance ($b = 4.904$, $z = 1.54$). Contrary to expectations, the inequality perceptions for low- and high-knowledge individuals are equally sensitive to objective state income inequality. Political knowledge does not mediate the relationship between objective state income inequality and subjective perceptions of rising national income inequality. Simply, both high- and low-knowledge individuals are equally likely to perceive rising income inequality.

To illustrate the interaction effects for income and state income inequality, in Figure 2 we present predicted probabilities for the relationship between state income inequality and individuals' perceptions that the gap between rich and poor has become "much larger," broken down by different levels of income and holding other independent variables constant at their means. As one can see, for low-income individuals there is a strong positive relationship between state income inequality and the probability that individuals perceive much larger increases in inequality. For low-income individuals living in a state with the lowest level of income inequality, the probability that they perceive large increases in inequality is 0.350; this rises to a probability of 0.708 for low-income individuals who live in states with the highest level of state inequality. On the other hand, the relationship between state income inequality and perceptions of income inequality is negative for individuals with the highest level of income; for these individuals, the probability of perceiving that the rich-poor income gap has become much larger decreases from 0.583 to 0.345 as the state Gini coefficient moves from its lowest to highest value. It is also worth noting that there is no relationship between state income inequality and perceptions of income inequality for individuals with average incomes. Overall, low-income individuals are much more likely to translate state income inequality into perceptions of increased income inequality.

The bottom line is that individuals' perceptions of rising income inequality are shaped primarily by the current inequality climate in their home states. When individuals reside in states with high income inequality, they are generally more likely than others to perceive rising income inequality over the past 20 years. Moreover, individuals with low income

FIGURE 2

Predicted Probabilities that Income Inequality Has Become “Much Larger” Over the Past 20 Years as a Function of State Income Inequality, by Respondent Income, 2004



NOTE: This figure reflects the effects of the interaction between state income inequality and individuals' household income. Predicted probabilities are based on the coefficients for state Gini coefficient, household income, and the interaction of the two variables, as presented in Model (2) of Table 2. In generating these predicted probabilities, the effects of all other variables in the model are held constant.

are particularly sensitive to the inequality environments in their home states. For low-income individuals, there is a very strong relationship between objective state income inequality and their perceptions of inequality growth, and this relationship declines systematically as individuals' incomes increase. We suspect that this is because they are more likely to see themselves at the bottom of the economic ladder relative to others in their state contexts, and the clearer signals that they receive about their relative economic position in society translates more easily into clear perceptions of income inequality in their home states and, ultimately, in the country as a whole.

Robustness Checks

As noted, our measure of income inequality is based on data from the Current Population Survey (CPS), as compiled by Guetzkow, Western, and Rosenfeld (2007). Although the Gini coefficient is a standard measure of income inequality, there are other measures that capture the same concept. As a check on the robustness of our findings, we reestimate our models using alternative measures of state income inequality.

TABLE 4

Ordered Logit Estimates for Models of Individuals' Perceptions of Rising Income Inequality, Using Galbraith-Hale Measure of Income Inequality, 2004

Variable	(1)		(2)	
	<i>b</i>	<i>z</i>	<i>b</i>	<i>z</i>
State income inequality (Galbraith-Hale)	6.444	2.79**	19.191	2.54**
State income inequality*Knowledge	—	—	2.232	1.19
State income inequality*Income	—	—	−1.087	−2.76**
Household income	−0.009	−0.53	0.468	2.79**
Partisan identification	−0.166	−3.18***	−0.165	−3.18***
Liberal-conservative ideology	0.290	2.94**	0.304	2.96**
Political knowledge	0.692	5.61***	−0.266	−0.31
Political knowledge*Ideology	−0.165	−4.14***	−0.172	−4.17***
Education	0.042	−0.75	−0.038	−0.68
Race: black	0.043	0.16	0.003	0.01
Ethnicity: Hispanic	−0.006	−0.03	0.019	0.11
Gender: women	−0.029	−0.22	−0.060	−0.46
Region: South	−0.714	−4.81***	−0.745	−4.68***
Region: West	−0.201	−1.26	−0.239	−1.34
Region: Northeast	−0.368	−2.15*	−0.410	−2.19*
Urban residence	−0.064	−0.43	−0.050	−0.34
Church attendance	0.018	0.34	0.012	0.23
Age	−0.001	−0.03	0.001	0.03
Age squared	−0.000	−0.06	−0.000	−0.10
<i>N</i>	869		869	
Pseudo <i>R</i> ²	0.000		0.043	
Wald χ^2	503.84		578.75	

***prob < 0.001; **prob < 0.01; *prob < 0.05.

NOTE: Z statistics are based on standard errors estimated with clustering by state. The constant terms are omitted from the table for the sake of brevity.

First, Galbraith and Hale (2008a) raise questions about the use of CPS data to measure state income inequality. They suggest that the CPS measure is limited by small sample sizes for smaller states in the 1960s and 1970s, as well as the aggregation of data for high-income individuals (referred to as the “top-coding” problem). In response, Galbraith and Hale use grouped data from the Bureau of Economic Analysis (BEA); their measure of state income inequality is based on the aggregation of wage data across various industrial classifications in each state (Galbraith and Hale, 2008b). For 2004, the Galbraith-Hale (BEA) and Guetzkow, Western, and Rosenfeld (CPS) measures are correlated, but only moderately ($r = 0.458$).

In Table 4 we report ordered logit estimates for our two models of individuals' perceptions of rising income inequality, but in these two models we substitute the Galbraith-Hale measures of state income inequality. As one can readily see, the pattern of coefficients is similar to those reported in

Table 2 that are based on the Guetzkow, Western, and Rosenfeld data. In Model (1) we see that the Galbraith-Hale Gini coefficient variable has a positive effect on individuals' perceptions of rising income inequality ($b = 6.444$, $t = 2.79$); simply, individuals residing in states with high income inequality are more likely to perceive rising income inequality than individuals residing in states with low income inequality. Moreover, in Model (2) we find evidence using the Galbraith-Hale measure of the same interaction effects that we observed using the Guetzkow, Western, and Rosenfeld data. As is the case in Table 2, we find that the coefficient for the state Gini coefficient variable is positive and statistically significant ($b = 19.191$, $t = 2.54$); this suggests that low-income, low-knowledge individuals increase their perceptions of rising income inequality as state income inequality increases. In addition, the interaction coefficient for household income and state income inequality is negative and significant ($b = -1.087$, $t = -2.76$), suggesting that low-income individuals are most sensitive to variation in state income inequality. On the other hand, the interaction coefficient for political knowledge and income inequality fails to achieve conventional levels of statistical significance ($b = 2.232$, $t = 1.19$).

We also explore the effects of ratio-based measures of state income inequality on individuals' perceptions of rising income inequality. Gini coefficients are very good as general measures of income inequality, but they can hide patterns of income inequality that are higher or lower at certain points in the income distribution. One solution has been to use measures of income inequality based on the ratio of the mean income for one (higher) percentile to the mean income for another (lower) percentile. For instance, the ratio of the mean income for the 90th percentile to the mean income for the 50th percentile tells us something about the level of inequality between high- and medium-income individuals; in a given political system, there may be higher or lower income inequality for the 90/50 ratio than for, say, the 50/10 or 90/10 ratio. Moreover, because of differences in political participation and engagement across the income distribution, it is possible that income gaps measured at different points in the income distribution may be more politically salient than general income inequality. The Guetzkow, Western, and Rosenfeld (2007) data set includes mean income measures for each income decile, so we are able to measure income inequality using different ratios.

In Table 5 we report ordered logit estimates for three models, using the 90/10, 90/50, and 50/10 ratios of high-to-low income as our measures of state income inequality, respectively. As one can see, two of these alternative measures do not fare well in predicting individuals' perceptions of rising income inequality. The coefficients for the 90/10 and 50/10 ratios are statistically nonsignificant, suggesting that the ratios of high-low and medium-low incomes do not have an effect on how individuals think about rising income inequality. On the other hand, the coefficient for the 90/50 ratio variable is both positive and statistically significant ($b = 0.773$, $t = 1.83$).

TABLE 5
Ordered Logit Estimates for Models of Individuals' Perceptions of Rising Income Inequality,
Using Different Ratio Measures of Income Inequality, 2004

Variable	90/10 Ratio			90/50 Ratio			50/10 Ratio		
	<i>b</i>	<i>z</i>	<i>b</i>	<i>b</i>	<i>z</i>	<i>b</i>	<i>b</i>	<i>z</i>	
Ratio of high-to-low income	0.120	1.10	0.773	1.83*	-0.101	-0.27			
Household income	-0.011	-0.69	-0.011	-0.68	-0.010	-0.64			
Partisan identification	-0.163	-3.30***	-0.169	-3.31***	-0.165	-3.28***			
Liberal-conservative ideology	0.293	2.99**	0.291	2.93**	0.279	2.84**			
Political knowledge	0.687	5.49***	0.680	5.41***	0.676	5.30***			
Political knowledge*ideology	-0.166	-4.18***	-0.164	-4.07***	-0.160	-3.99***			
Education	-0.029	-0.53	-0.026	-0.47	-0.032	-0.58			
Race: black	0.097	0.36	0.099	0.36	0.123	0.48			
Ethnicity: Hispanic	0.053	0.34	0.024	0.14	0.090	0.56			
Gender: women	-0.059	-0.46	-0.056	-0.42	-0.059	-0.45			
Region: South	-0.541	-3.61***	-0.604	-5.16***	-0.427	-2.38***			
Region: West	-0.116	-0.58	-0.126	-0.84	0.036	0.19			
Region: Northeast	-0.061	-0.36	-0.108	-0.63	0.018	0.09			
Urban residence	-0.081	-0.59	-0.069	-0.51	-0.107	-0.79			
Church attendance	0.022	0.43	0.023	0.44	0.022	0.42			
Age	-0.001	-0.04	-0.002	-0.08	-0.001	-0.04			
Age squared	-0.000	-0.02	0.000	0.04	-0.000	-0.00			
<i>N</i>	881	881	881	881	881	881			
Pseudo <i>R</i> ²	0.037	0.037	0.037	0.037	0.036	0.036			
Wald <i>χ</i> ²	384.34	379.79	384.34	379.79	440.27	440.27			

prob < 0.001; *prob < 0.01; *prob < 0.05.

NOTE: *Z* statistics are based on standard errors estimated with clustering by state. The constant terms are omitted from the table for the sake of brevity.

This indicates that the ratio of income for high-income individuals to income for middle-income individuals has the strongest effect on individuals' perceptions of rising income inequality, though the effect is not a particularly strong one.

Finally, one might suggest that measuring income inequality at a geographic level closer to the individual, such as counties, would be most appropriate. Unfortunately, data on income inequality at the county (or lower) level are not available in 2004. The closest year for which such data are available is 2000, which is four years removed from the year of this survey. In auxiliary analyses using state inequality data (results not shown), we find that the effect of objective income inequality on perceptions of rising inequality is diminished as the temporal distance increases between the measurement of inequality and the use of survey data from 2004. Clearly, we should use caution in utilizing lagged data in our analyses.

As a check, we estimate our models using 2000 county-level data (results not shown) and find that income inequality at the county level has a positive effect on perceptions of income inequality ($b = 3.389$, $z = 1.81$), though the size of the coefficient is about one-half the size of the coefficient for 2004 state income inequality ($b = 7.665$, $z = 2.09$). We cannot be sure if the reduced magnitude of the county-level coefficient is due to the four-year lag or to inherent differences in results for county and state inequality data. Because we lack county-level inequality data for 2004, we focus on the results from our state-level analysis.

Conclusion

In this article we explore the effects of inequality contexts on individuals' perceptions of rising income inequality over the past 20 years. We build explicitly on the work of Bartels (2008), who develops and tests models of perceptions of rising income inequality. We hypothesize that the level of income inequality in individuals' home states has an independent effect on perceptions of income inequality that extends beyond the effects of independent variables included in Bartels's models.

Our empirical findings provide strong support for the assertion that the current level of state income inequality has a direct effect on individuals' perceptions of rising income inequality. In our models without interactions, we find that state income inequality has a positive and highly significant effect on perceptions of rising inequality. Controlling for the effects of other variables, individuals residing in states with high income inequality are more likely than others to perceive that the income gap in the United States has become larger over the past 20 years. There is little evidence that the effects of state income inequality on perceptions of rising inequality are magnified as a function of individuals' political knowledge, but there is discernible evidence that these effects are diminished as a function of individuals'

household income. Simply, low-income individuals are much more responsive to state income inequality than are wealthier individuals.

Why are these findings important? First, understanding how individuals translate objective economic conditions into perceptions of those conditions is an important undertaking. In traditional democratic theory, individuals are assumed to base their electoral decisions and opinions about politics on information that is at least somewhat accurate. Given the role of the economy in theories of voting behavior and public opinion, it is important to ascertain the degree to which objective economic contexts are reflected accurately in individuals' perceptions of those contexts.

Second, many scholars and political observers have speculated that the increase in income inequality would be translated into more intense class differences in public opinion and voting behavior, yet it is not clear that these class differences have materialized as intensely as expected. Traditionally, individuals with lower levels of income are thought to have lower levels of knowledge about politics and their political surroundings, and one may speculate that lower-income individuals would be less likely to perceive accurately the level of income inequality in their environments. Our finding that individuals with lower income are *more* likely to translate objective state income inequality into perceptions of increasing income inequality stands in contrast to these expectations. Moreover, individuals with lower incomes are deemed as significantly less likely to vote and participate in other political activities, and this may mute the effects of income inequality on mass political response. Our finding that individuals with lower incomes actually have more accurate perceptions of the rising income inequality may possibly suggest the potential for more active political mobilization among the poor in reaction to increased income inequality, though future research is needed to address this question.

Where do we go from here? We suggest that the research agenda on this subject is a full one. First, it is important to consider other possible mediating effects on the relationships between context and perceptions of income inequality. For instance, it is likely that the news media plays a substantial role in conveying information to individuals about the current and past states of the income distribution, so in future research it is important to add the news media to the study of individuals' perceptions of income inequality. Moreover, understanding how and to what extent the news media covers issues relating to income inequality and the income distribution is an important undertaking that should be explored in future research.

Finally, we speculate that the direct and mediating effects of income on attitudes toward income inequality may be context specific. We have measured income using standard income categories, but what might be more important is where individuals fit in the income distribution of their home states, counties, or neighborhoods. Individuals in a household making \$45,000 per year may be less concerned about income inequality in a state where their income places them in the middle of the income distribution,

while another individual with the same household income may have greater concern about income inequality if their income places them at the lower end of the income distribution. The study of contextual effects is just beginning and should be developed by scholars interested in public opinion toward income inequality.

REFERENCES

Bartels, Larry M. 2005. "Homer Gets a Tax Cut: Inequality and Public Policy in the American Mind." *Perspectives on Politics* 3(1):15–31.

———. 2008. *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton, NJ: Princeton University Press.

Dahl, Robert A. 2006. *On Political Equality*. New Haven, CT: Yale University Press.

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

Galbraith, James K., and Travis Hale. 2008a. "State Income Inequality and Presidential Election Turnout and Outcomes." *Social Science Quarterly* 89:887–901.

———. 2008b. *A Panel of Estimated Family Income Inequality, by State and Year, 1969–2004*. Available at <http://utip.gov/utexas/edu/data/html/>.

Garand, James C. Forthcoming. "Income Inequality, Party Polarization, and Roll-Call Voting in the U.S. Senate." *Journal of Politics*.

Garand, James C., and N. Kim Nguyen. 2008. "Income Inequality and Voter Turnout in the American States: 1960–2004." Paper presented at the 2008 Annual Meeting of the American Political Science Association. Boston, MA.

Goldin, Claudia, and Lawrence F. Katz. 2008. *The Race Between Education and Technology*. Cambridge, MA: Belknap Press/Harvard University Press.

Gottschalk, Peter, and Sheldon Danziger. 2005. "Inequality in Wage Rates, Earnings and Family Income in the United States 1975–2002." *Review of Income and Wealth* 51(2): 231–54.

Guetzkow, Joshua, Bruce Western, and Jake Rosenfeld. 2007. *State-Level Data on Income Inequality: 1963–2003*. Available at <http://www.inequalitydata.org/>.

Jacobs, Lawrence, and Theda Skocpol. 2005. "American Democracy in an Era of Rising Inequality." In Lawrence Jacobs and Theda Skocpol, eds., *Inequality and American Democracy: What We Know and What We Need to Learn*. New York: Russell Sage Foundation.

Leighley, Jan, and Jonathan Nagler. 2006. "Class Bias in the U.S. Electorate, 1972–2004." Paper presented at the 2006 Annual Meeting of the American Political Science Association. Philadelphia, PA.

McCall, Leslie. 2003. *Do They Know and Do They Care? Americans' Awareness of Rising Inequality*. Unpublished paper. Available at <http://www.russellsage.org/publications/workingpapers/knowcare>.

———. 2005. "Do They Know and Do They Care? Americans' Awareness of Rising Inequality." Paper presented at the Russell Sage Foundation Social Inequality Conference, University of California, Berkeley. Berkeley, CA.

_____. 2007. *The Undeserving Rich: Beliefs About Inequality in the Era of Rising Inequality*. Unpublished paper. Available at <<http://www.northwestern.edu/ipr/publications/papers/mccall/undeservingrich-1007.pdf>>.

McCall, Leslie, and Lane Kenworthy. 2008. *Do Americans Care About Rising Inequality?* Unpublished paper. Northwestern University.

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

Morris, Martina, and Bruce Western. 1999. "Inequality in Earnings at the Close of the Twentieth Century." *Annual Review of Sociology* 25:623–57.

Osberg, Lars, and Timothy Smeeding. 2006. "'Fair' Inequality? Attitudes Toward Pay Differentials: The United States in Comparative Perspective." *American Sociological Review* 71:450–73.

Piketty, Thomas, and Emmanuel Saez. 2003. "Income Inequality in the United States: 1911–1998." *Quarterly Journal of Economics* CXVII:1–39.

Primo, David M., Matthew L. Jacobsmeier, and Jeffrey Milyo. 2007. "Estimating the Impact of State Policies with Mixed-Level Data." *State Politics and Policy Quarterly* 7:446–59.

U.S. Census Bureau. 2009. Table H-1. *Income Limits for Each Fifth and Top 5 Percent of All Households: 1967 to 2008*. Available at <<http://www.census.gov/hhes/www/income/histinc/ineqtoc.html>>.

Uslaner, Eric M., and Mitchell Brown. 2005. "Inequality, Trust, and Civic Engagement." *American Politics Research* 33:868–94.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion*. Cambridge, MA: Cambridge University Press.