

Income Inequality, Citizen Polarization, and Political Protest

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Abstract

Over the past several decades, two important trends have emerged across the world: a dramatic rise in economic inequality within nations and an increase in the frequency of mass protest. Although it is tempting to link these two trends, prior studies of the relationship between economic inequality and political unrest have proven contradictory and thereby inconclusive. We argue that existing studies centered on deprivation theory do not adequately account for the political mechanisms by which inequality does or does not lead to protest. Building on Gurr's theory of deprivation, we suggest that research needs to examine not only perceptions of deprivation born of inequality, but also, more importantly, polarization in such perceptions. Using data from 12 separate cross national survey projects, we build an original, comparable measure of political polarization and examine the effect of income inequality on polarization and the effect of polarization on political protest in 93 countries over the period 1973 to 2010. These analyses yield three novel conclusions. First, we find that countries with higher levels of income inequality tend to have more polarized citizens. Moreover, countries with polarized citizens are more likely to endure nonviolent protest. Finally, protests are most likely in countries where average citizen satisfaction is high but this satisfaction is also polarized, a finding somewhat contrary to Gurr's original theoretical framework.

Income Inequality, Citizen Polarization, and Political Protest

I. Introduction

The last five years have seen major political protests in nearly every corner of the globe including Tunisia, Egypt, Libya, Yemen, Syria, Venezuela, the United States, the United Kingdom, Greece, Spain, Turkey, South Africa, Argentina, Ukraine, and Thailand. Indeed, taking a longer view the incidence of political protest appears to be very much on the rise (e.g. Norris 2002, 197): “the systematic cross-national survey evidence that is available confirms that a significant long-term rise in protest politics has indeed occurred. . . . [T]he proportion of citizens engaged in protest politics has risen, and risen dramatically, during the late twentieth century.” We could also point to the emergence of anti-protest laws in Canada, the United States, and Spain (among others) as an indicator of this trend.¹ There is substantial evidence that these political protests have real consequences for governments and citizens alike: “protests can build political movements that ultimately affect policymaking, and . . . they do so by influencing political views” (Madestam, Shoag, Veuger, and Yanagizawa-Drott 2013, 1633; see also Collins and Margo 2007; Lohmann 1993, 1994; Skocpol and Williamson 2011; Finkel and Muller 1998).

Another trend over the last several decades that has attracted considerable attention has been a widespread and significant increase in income inequality within countries (e.g. Piketty 2013). The Gini coefficient, a common measure of income inequality that ranges from 0 (when all citizens have identical incomes) to 1 (when all income goes to only one person), stood at an average of 0.29 in OECD countries in the mid-1980s. By the late 2000s, however, the mean had increased by almost 10% to 0.316. The coefficient rose in 17 of the 22 OECD countries for

¹ <http://www.theguardian.com/world/2013/nov/21/spain-government-strict-anti-protest-laws>

which long-term data series are available (OECD 2011).² Stated another way, since 1980 the share of wealth owned by the richest 1% has expanded in all but two of the 26 nations tracked by researchers in the World Top Incomes Database (Puzzhanger 2014).³ This has led to considerable discussion about the consequences of growing inequality. According to one commentary, “A consensus has formed around the idea that income inequality is the single most important challenge facing the world” (Global Post and Ford Foundation).⁴

It is tempting to link these two trends. However, substantial previous research on the relationship between inequality and protest has proven contradictory, as studies have theorized and found positive, negative, curvilinear, and null relationships between inequality and protest. In this paper, we argue that existing analyses overlook two important components of grievance theory on which the theories generally are based: (1) the translation of objective sources of grievance (e.g. inequality) to subjective perceptions of relative deprivation, and (2) societal polarization in such perceptions. We argue that this second component—polarization in deprivation—is key for understanding the rise of protest across the world.

Using data from 12 separate cross national survey projects, we develop new measures of grievance and polarization in such grievances that are comparable across countries. We then examine the effect of income inequality on political grievance and polarization, and the effect of political grievance and polarization on political protest in 115 countries from 1973 to 2010. Our analyses yield three novel conclusions. First, we find that countries with higher levels of income inequality also tend to have more polarized citizens. Moreover, countries with polarized citizens are more likely to experience nonviolent protest, despite the fact that there is no direct

² <http://www.oecd.org/els/soc/49499779.pdf>.

³ <http://topincomes.g-mond.parisschoolofeconomics.eu/>; <http://www.latimes.com/business/la-fi-mo-oxfam-world-economic-forum-income-inequality-20140120-story.html>.

⁴ <http://www.globalpost.com/special-reports/global-income-inequality-great-divide-globalpost>.

relationship between inequality and protest. Finally, protests are most likely in countries where average citizen grievances are actually rather low, but this satisfaction is also polarized, a finding that is contrary to key predictions in Gurr's original formulation.

II. Background and Expectations

According to grievance theory, (e.g. Gurr 1970), mass protest results from a sense of relative deprivation, including dissatisfaction with poverty, economic conditions, or other grievances related to living conditions. Scholars with this perspective have sought to test the relationship between various potential sources of such deprivation and protest, and the relationship between economic inequality and protest has proven to be one of the most studied implications of the grievance theory research agenda (Lichbach 1988, 1989; Sigelman and Simpson 1977; Boix 2003; Russett 1964; Acemoglu and Robinson 2009; Nagel 1974). The results of such analyses are all over the map, with studies suggesting a positive, negative, convex, concave, and null relationship (see Lichbach 1989 for a review).

For example, numerous studies argue for a linear relationship between a country's level of income inequality and political protest activity (e.g., Lichbach 1988; Sigelman and Simpson 1977; Boix 2003). Similarly, Russett finds that in societies with more equal land distribution democracy is more stable (Russett 1964). According to one survey piece, "there is little surprise that inequality is also strongly associated with political instability. While the sources of political conflict vary from country to country, conflict generally originates from severe social grievances, including class conflict and the perception of inequality among ethnic, religious or other groups. . . . [W]e find that unequal societies, in general, are much more prone to political instability, or,

in other words, to be destabilized or overthrown by unconstitutional or forceful means, which includes politically-motivated violence and terrorism” (UNICEF Report).

Others argue that protest is least likely in societies with either very little or a great deal of income inequality, but for different reasons. In societies with little inequality there is little basis for grievance. In societies with high levels of inequality, meanwhile, the political opportunity structure may not facilitate political protest (Acemoglu and Robinson 2009). To explain the same pattern, Nagel contends that in societies with very high levels of income inequality the poor are not as sensitive to inequality because in this context the poor are unlikely to compare their economic position to that of the wealthy (Nagel 1974).

We argue that these studies suffer from two major shortcomings. Their first problem is that there is a disconnect between the objective (potential) source of grievance (economic inequality) and actual subjective appreciation of relative deprivation, a key distinction made by Gurr (1970). In other words, to the extent that economic inequality is positively related to protest, its effects are dependent on individuals subjectively viewing such inequality as causing a discrepancy between their “value expectations and their value capabilities” (Gurr 1970, 12). An objective source of grievance is thus not enough to spur protest; it is the realization of a gulf between life outcomes and the results to which individuals believe they are entitled that is also required.

For two reasons, citizens’ subjective evaluations of inequality may not be a carbon copy of objective conditions. First, citizens may not hold accurate perceptions of the degree of income inequality (Delli Karpini and Keeter 1996). For instance, in January 2014 the Pew Research Center for People and the Press conducted a survey of Americans in which respondents were asked if “the gap between the rich and everybody else in the U.S. had increased, decreased,

or stayed about the same.” Given the widespread attention to growing income inequality in the U.S., it is rather remarkable that 35% of Americans either thought inequality had remained unchanged (25%), had decreased (8%), or did not know (2%).⁵ Similarly, several studies focusing on the U.S. show that Americans both underestimate (Norton and Ariely 2011) and overestimate (Chambers et al. 2013) the actual level of income inequality.

Second, even if citizens hold accurate perceptions about the level of income inequality, their expectations about whether inequality is a legitimate basis of grievance for them will vary. For instance, if citizens in a country tend to believe that individuals are chiefly responsible for their own economic circumstances, rather than the government being responsible, then even in the face of substantial inequality grievances will be less likely to emerge (Verba 1985). For both of these reasons, income inequality as an objective condition will only be imperfectly related to income-based political grievance.

While a plethora of studies seeking to tie economic inequality and other objective grievance sources to protest have essentially ignored this subjective psychological component, more recent survey-based work has sought to test relative deprivation predictions using survey items that actually tap into perceived grievances (e.g., Dalton, Van Sickle, and Weldon 2009; Booth and Seligson 2009, ch. 5). Although the shift toward examining subjective grievances rather than (or in addition to) potential objective sources of deprivation moves analyses closer to the original logic undergirding Gurr’s grievance theory, results have proven mixed, particularly in studies focusing on long-standing democracies (e.g., Dalton, Van Sickle, and Weldon 2009). Those who put great stock in the need for collective action have taken this lack of strong or consistent relationships between expressed dissatisfaction with economic, political, or life

⁵ <http://www.people-press.org/files/legacy-questionnaires/4-28-14%20Inequality%20Topline.pdf>.

outcomes and protest as support for their research agenda, which suggests that protest potential is essentially unrelated to actual grievances (Lichbach 1996).

The second problem with prior treatments of the grievance/protest relationship is that they overly focus on “deprivation” without sufficiently taking into account the “relative” component of Gurr’s theory. Gurr argues that mobilization will actually be greatest not only when a particular individual or group is dissatisfied with their lot, but also when other reference groups in society are not as badly deprived. In other words, it is the *inequality in perceived* outcomes that is the largest driver of protest. Neither objective economic inequality nor subjective grievance—the main focuses of previous work—is sufficient; rather, what is more important is the *polarization* of subjective perceptions of deprivation. Protest from this perspective is thus more likely when some groups in society are particularly aggrieved while others are quite satisfied with their lives. Thus we argue that the “relative” component of Gurr’s relative deprivation grievance theory, and in particular the relationship between grievances arising from economic inequality and protest, has largely been ignored in empirical analyses.

Another way of describing the second hole in the empirical literature that we identify is to say that studies have overwhelmingly focused on mean levels of expressed grievances rather than the dispersion of such perceptions. For example, at the cross national level, studies have examined the relationship of various subjective measures of perceived grievances with the democratic political system, expressed in the language of life satisfaction, satisfaction with the performance of the political system or current government, and sociotropic and egotropic evaluations of the economy and protest (Anderson and Mendes 2006; Dalton, Van Sickle, and Weldon 2009; Booth and Seligson 2009). These studies find that a greater sense of grievance decreases citizens’ interest in politics and their willingness to participate in conventional forms

of political activism while at the same time increasing the likelihood of more unconventional protest activities (Booth and Seligson 2009; Dalton 2004, ch. 8; Norris 2011, ch. 11). High levels of grievance are likely to reduce good governance and the application of the rule of law, as under these conditions citizens are less likely to comply voluntarily with laws, including tax noncompliance and fraudulent application for government benefits (Dalton 2004, 166; Norris 2011, ch. 11; Tyler 2006). Virtually all these studies share a focus on the mean or median constituent. In so doing, they generally do not attend to the disagreement in evaluations that exists within countries, or whether citizens are *politically polarized*.

Admittedly, some scholars have begun to shift the focus from comparing the experience of the average citizen across democratic systems to comparing the experience of citizens within a single political system (Bartels 2008; Gilens 2005; Jacobs and Page 2005; Adams and Ezrow 2009). These studies seek to disaggregate the public, asking whether within countries some citizens better evaluate the political system than others, or whether judgments are polarized. To date, though, these studies of citizen polarization have not been truly comparative across countries. Most comparative studies only include a handful of cases or are single-country case studies (Adams and Ezrow 2009; Ezrow 2010; see Powell 2007 for review). This is not surprising, because it is very difficult to compare polarization in multiple countries in an encompassing manner. And yet, to the extent that Gurr's (1970) original predictions about the importance of relative differences in grievances are correct, we also must examine the polarization in people's evaluations of their life situation and/or the political system.

Finally, little thought has been given in prior studies to the relationship between the average level of grievance in a country and the dispersion of the country's grievances. Figures 1(a) and 1(b) illustrate four different ideal type theoretical distributions relating mean levels of

grievances with polarization or dispersion of such grievances. In both figures, \bar{x} denotes the average level of grievances in a society, with the average level of perceived deprivation lower for the two distributions in Figure 1(a) compared to the two distributions in Figure 1(b). Examining Figure 1(a), in countries with what might be termed *inclusive* distributions, there is a low average level of grievance and only small differences in such evaluations across groups in society. In countries with *majoritarian* distributions, there can be an equally low levels of grievance on average (\bar{x}), but much more pronounced differences in evaluations across groups in society.⁶ In these countries, most citizens feel well served by the political system but a smaller minority does not.

Turning to Figure 1(b), which shows distributions with equally high average levels of grievance, in countries with what could be termed *oligarchic* distributions, there is a high average level of grievance and significant differences across groups in society. In these countries, the vast majority of citizens are dissatisfied with the functioning of the political system but a small minority feels well served by it. Finally, in countries with *exclusionary* distributions, grievance is equally high on average and only small differences in such evaluations occur across groups in society.

Most tests of grievance theory have assumed that high average levels of grievance are the key driver of protest, while ignoring the differences in distributions of such grievance. That is, studies have generally assumed that we would see higher levels of protest in polities with distributions in Figure 1(b) and lower levels of protest in societies with distributions pictured in Figure 1(a). What we contend, however, is that protest should actually be highest in distributions with significant polarization, that is, it should be highest in countries with what we term

⁶ In this case, we might say that in inclusive distributions, the modal level of satisfaction is lower than it might otherwise be in perhaps due to efforts integrate more citizens into the “coalition of supporters.”

FIGURE 1(A): TWO DISTRIBUTIONS
WHEN GRIEVANCE PERCEPTIONS ARE LOW ON AVERAGE

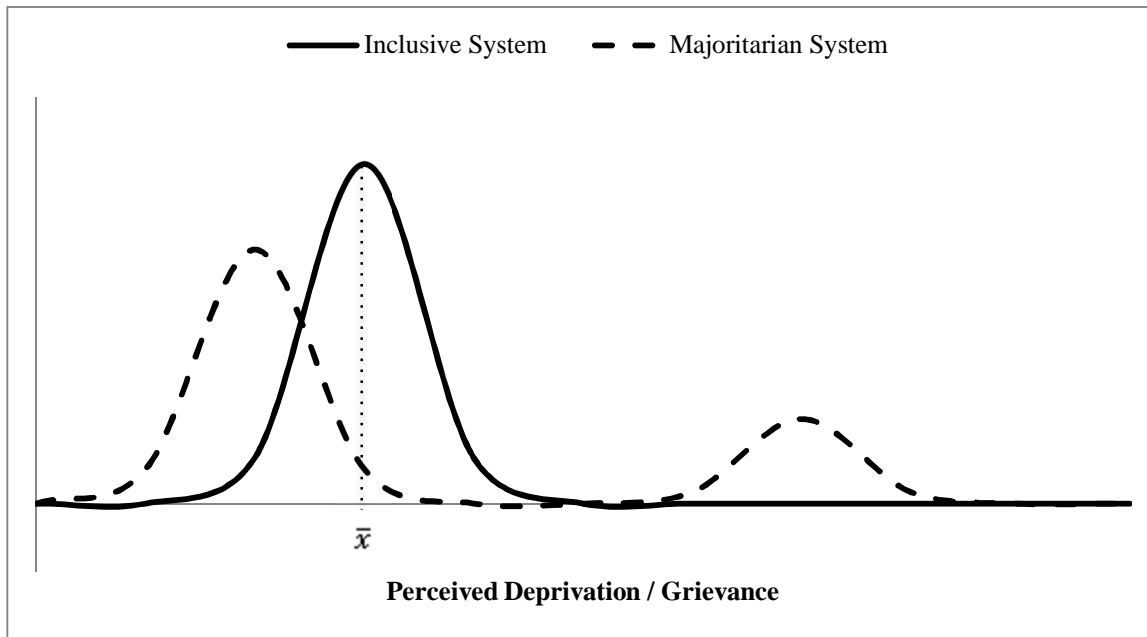
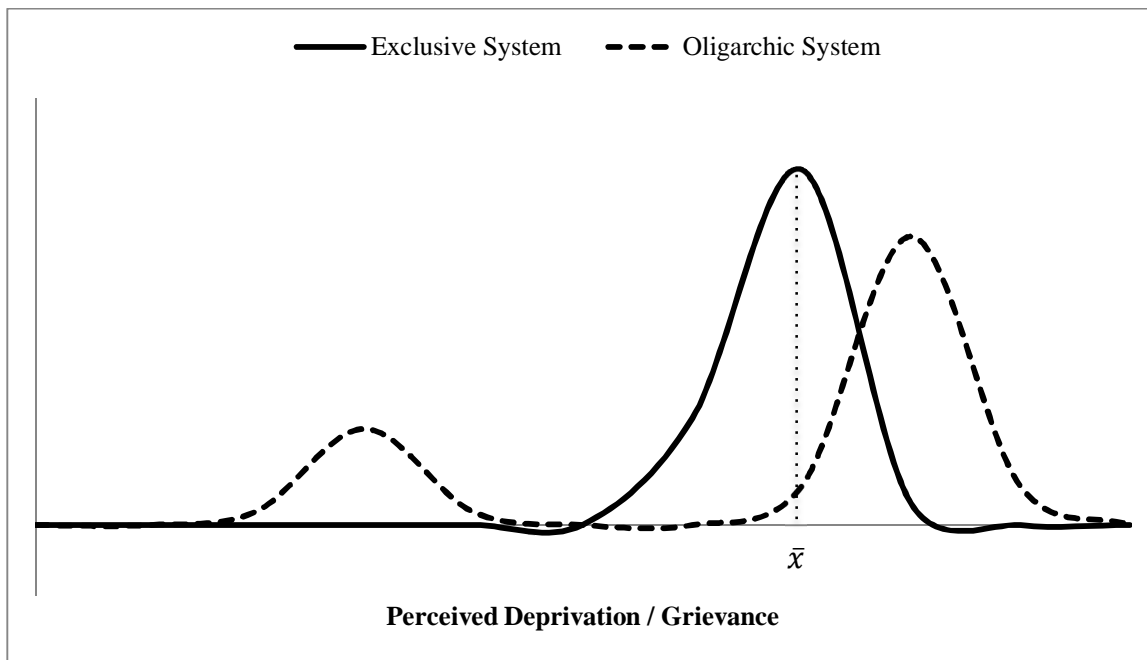


FIGURE 1(B): TWO DISTRIBUTIONS
WHEN GRIEVANCE PERCEPTIONS ARE HIGH ON AVERAGE



majoritarian and *oligarchic* distributions of grievances, and lower in countries in which there are high levels of accord, whether that be low levels of shared grievance (*inclusive*) or high levels thereof (*exclusive*). According to Gurr's theory, protest should prove particularly high in countries with *oligarchic* distributions, where there are both high levels of grievances and large gulfs in satisfaction between different groups.

III. Measuring Grievances and Polarization Cross-Nationally

In order to test our contention that accounting for both mean levels of grievances and polarization in such grievances are important for understanding their potential role as mediators between objective economic inequality and protest, , we constructed new, cross-nationally comparable measures of the constructs based on a common survey question that has been included on cross-national surveys across the globe over the last several decades. More specifically, we utilize the mean and variance, respectively, in citizens' satisfaction with the way that democracy works in their country as our key measures of perceived deprivation and polarization in such views.. While the ubiquity of the item is one of its principal advantages, we argue that it also serves as a good summary measure of grievances with the political system (see also Fuchs 1993, 1999; Fuchs, Guidorossi, and Svenson 1995; Harmel and Robertson 1986; Klingemann 1999; Lockerbie 1993; McDonough, Barnes, and Lopez Pina 1986; Morlini and Tarchi 1996; Toka 1995; Weil 1989; Widmaier 1988, 1990). As noted by Anderson and Guillroy (1997, 70), the "satisfaction with the way democracy is working item is indicative of "system support at a low level of generalization," meaning that the item captures political evaluations that lie between diffuse support for the political regime and specific support for the current government (Norris 2011; Easton 1965). This more medium-term evaluation reflects a person's perceptions about the ability of the political system to offer the opportunity for his/her views to

be implemented, or the level of more deep-rooted grievance. It exhibits the degree to which strong governmental performance is realized (or not) over a period of time, as well as citizen agreement with policy outputs when their favored party controls government as well as when it does not. Thus, when citizens are not only aggrieved with current government policies but also doubt that future democratic governments will also address their grievances, we would expect higher levels of protest. Our further argument is that the variance in such grievances is perhaps even more important than its mean.

We operationalize grievance using this measure of satisfaction with democracy. While the exact question wording varies slightly across surveys, the standard satisfaction item asks respondents to evaluate the functioning of democracy in their country using a four point scale. We compiled surveys from 12 cross-national survey projects that include this four-point item, resulting in data for 93 countries between 1973 and 2010, or a total of 1,029 country-years of data.⁷ For each country-year, our measure of grievance is simply the average of the inverted satisfaction with democracy response scale, rescaled to a range of 0 to 100.⁸ We restricted our analysis to countries that were at least semi-democratic (i.e., greater than or equal to “0” on the Polity combined autocracy-democracy index).

Our measure of polarization is based on the aggregate level standard deviation in responses concerning citizen grievance. However, since the response scale for the satisfaction with democracy item is relatively short, the observed variance may be truncated, especially in cases in which the means approach the scale minima and maxima. For example, if on a four-

⁷ The sources of data include the Afrobarometer, Asianbarometer, Candidate Countries Eurobarometer, Central and Eastern Eurobarometer, Comparative Study of Electoral Systems (CSES), Eurobarometer, European Social Survey, AmericasBarometer, LatinBarometer, New Europe Barometer, Post-Communist Publics Study, and the World Values Study.

⁸ For certain country-years, multiple surveys were available. To create our grievance and polarization measures, we averaged across the survey means and standard deviations, respectively within each country-year.

point scale the country average is 3.5 (a high average performance evaluation), it is likely that some respondents would have chosen a higher value (say a response corresponding to 5 or 6) if it were available to them.⁹ In other words, there is a structural dependency between the mean and standard deviation. To account for this problem, we follow the adjustment proposed by Dehly and Kohler (2011), which divides the observed standard deviation by the maximum possible standard deviation at the corresponding mean value.¹⁰ As a consequence, our measure of polarization is in effect the percent of the maximum standard deviation at the respective mean value.¹¹

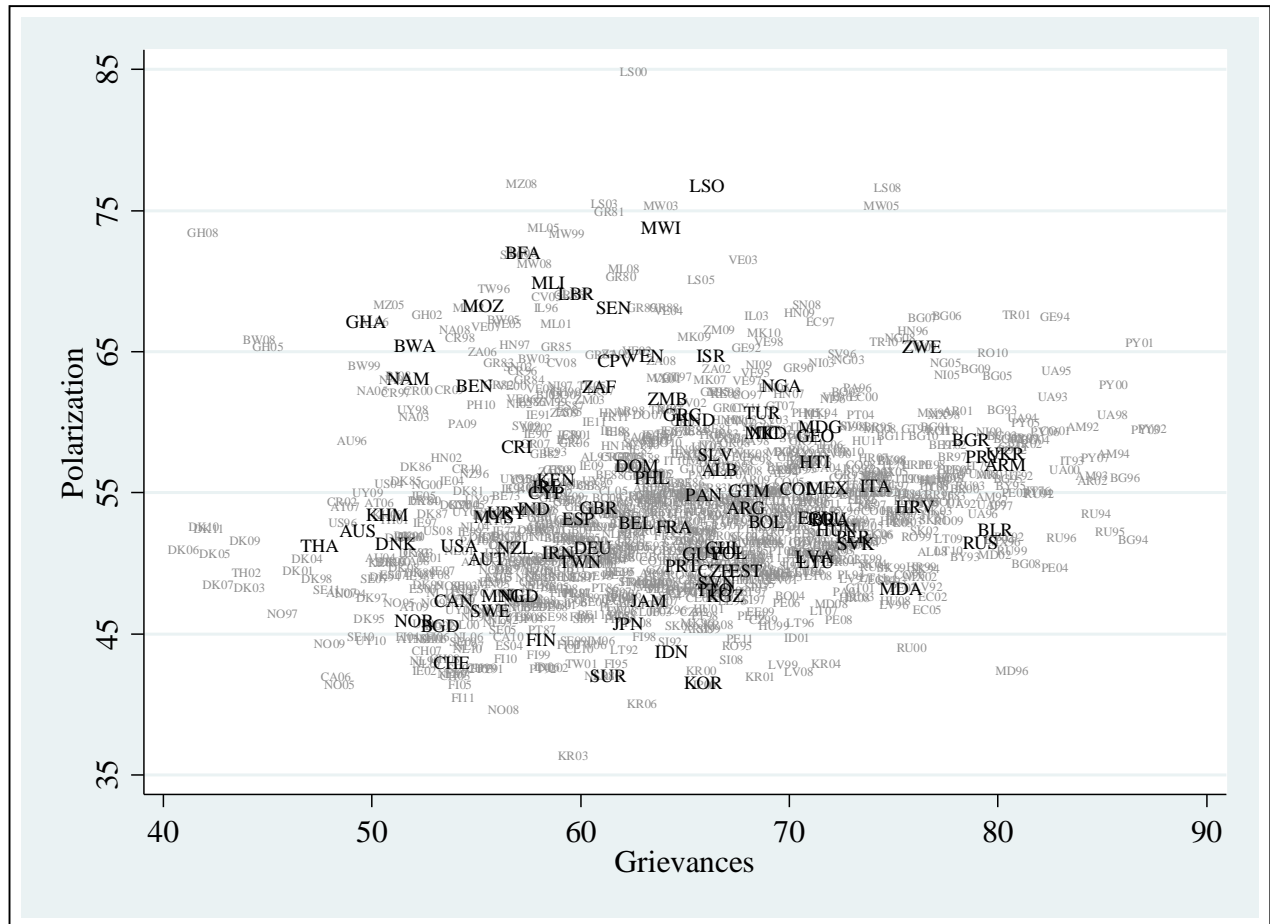
Figure 2 plots polarization versus grievance on the y and x axes, respectively. Country-year values are indicated with small grey labels while country averages across all survey years are plotted with larger black labels. The level of grievance in the sample ranges from a low of 41 in Denmark in 2006 to a high of 87.4 in Paraguay in 2002, with a median value of 63.9 in Mexico in 2012, and country average ranging from a low of 46.5 in Ghana to a high of 80.4 in Ukraine. On the other hand, polarization ranges from a low of 36.4 in the case of South Korea in 2001 and a high of 84.9 for Lesotho in 2000, with country averages ranging from 41.1 in South Korea to 76.8 in Lesotho.

⁹ More generally, the variance of a mean is partially dependent on the relative placement of the mean for items with definite endpoints. As a result, variance estimates for countries demonstrating relatively high or low means may understate the true amount of disagreement among citizens about the quality of representation in the country. For a detailed discussion in terms of measures of inequality of happiness, see Kalmijn and Veehoven (2005) and Delhey and Kohler (2011).

¹⁰ The maximum standard deviation at a given mean value is calculated as follows: $\max(\sigma) = \sqrt{\frac{(u-\mu)*(\mu-l)*N}{N-1}}$, where u and l represent the upper and lower bounds of the satisfaction with democracy scale, μ is the mean satisfaction with democracy, and N is the number of respondents.

¹¹ We also rescaled the polarization item to a 0-100 scale.

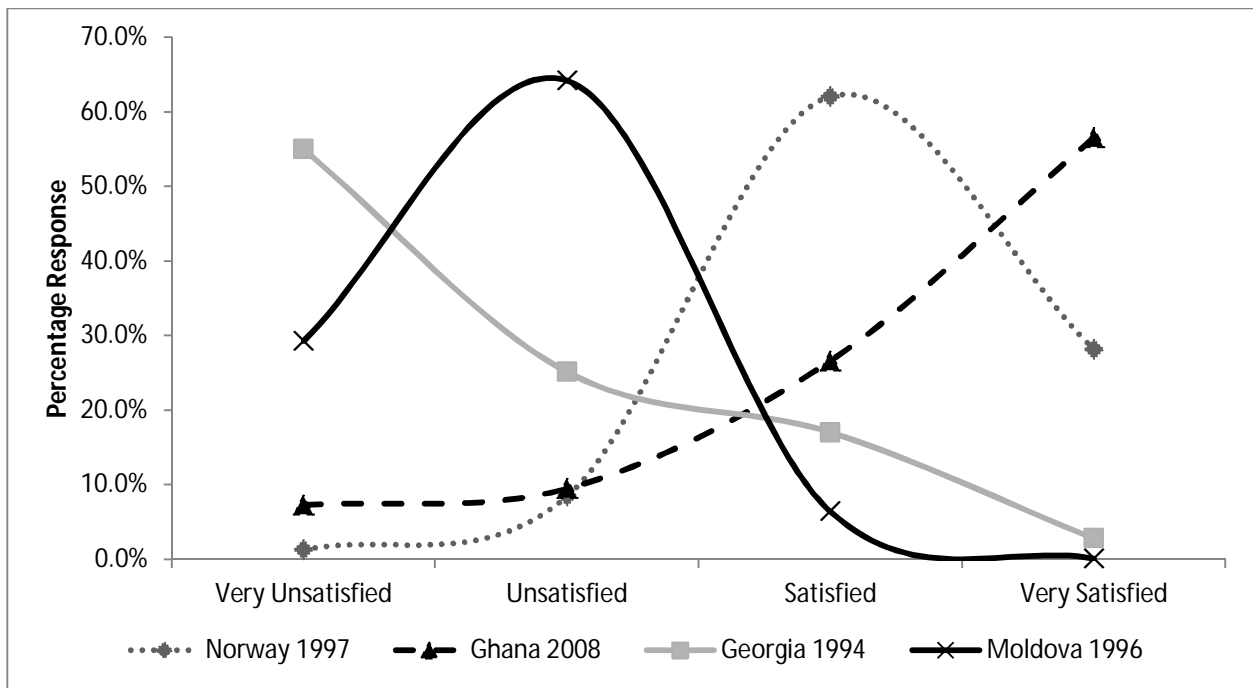
FIGURE 2: SCATTERPLOT OF GRIEVANCE AND POLARIZATION, BY COUNTRY-YEAR AND COUNTRY AVERAGES



There is evidence of a slight positive correlation between the mean level of grievance and polarization ($r=0.25$), although the figure makes clear that there are countries that approach the four ideal type distributions described in Figure 1. Figure 3 plots the distribution of responses to the satisfaction with democracy item for four country-years that best approximate these ideal types. Norway in 1997 perhaps best approaches the *inclusive* ideal type distribution, since in that year Norwegians overwhelming were satisfied with democratic performance, with fewer than 10 percent of respondents expressing dissatisfaction. While the average level of grievance is essentially equal for both Norway 1997 and Ghana 2008, there is significantly greater disagreement in the latter case, with over half of all respondents saying they were “very

satisfied” in the latter, while over 15% of respondents expressed dissatisfaction. As a consequence, Ghana in 2008 perhaps best represents the *majoritarian* distribution. In contrast, while average levels of grievance are equally low in the cases of Georgia in 1994 and Moldova in 1996, there is much greater polarization in opinions in the former than in the later. A sizeable minority of Georgians (20%) are actually satisfied or very satisfied with democratic performance, while 55 percent are very unsatisfied, indicating an *oligarchic* distribution. On the other hand, there is significantly more accord among Moldovans in 1996, as over two thirds said they were unsatisfied, and less than 7 percent expressed satisfaction.

FIGURE 3: EMPIRICAL EXAMPLES OF IDEAL TYPE DISTRIBUTIONS



IV. ADDITIONAL DATA AND METHODS

Beyond the polarization and grievance measures described above, the main explanatory variable in the analysis is economic inequality, which we hypothesize to predict polarization and grievance, but to have a negligible impact on protest once we control for the latter two variables. Our measure of inequality is the gini coefficient for income net taxes and transfers included in the Standardized World Income Inequality Database (Solt 2009), which compiles distributional data from a variety of sources. To take into account the uncertainty of the estimates, the inequality dataset provides 100 imputed estimates for each country year. As a result, all models were run using multiple imputation techniques based on the 100 imputations for each country year provided in the inequality the SWIID database. Since both linear and curvilinear relationships have been hypothesized (see above), all models include both the (mean centered) gini coefficient and its quadratic.

Our measure of protest is based on the number of anti-government protests and strikes recorded in a given year by the Cross National Time Series (CNTS) Data Archive (Banks 2011). The event counts are based on coding of mentions in news sources, primarily the *New York Times*. Details of the operationalization and measurement of these measures are available from CNTS.

In terms of control variables, the literature on protest provides a plethora of potential variables, including those associated with grievance theory as well as political opportunity structure theories.¹² Grievance theory models include the natural log of GDP per capita, growth

¹² Many argue that changing economic circumstances in a nation are a key determinant of citizen protest, including inflation and the growth rate, which lead to a sense of grievance (Gurr 1970; Hendrix and Haggard 2014). Dissatisfaction with the provision of collective goods has also been tied to protest activity (Finkel and Muller 1998). Others stress instead the level of economic resources the average citizen possesses, where resources are thought to facilitate mobilization (e.g. McCarthy and Zald 1977),

in GDP per capita, and the natural log of inflation (inflation <0 set to 0). Political opportunity structure models include dummy variables indicating if an executive or legislative election took place, the level of democracy (Polity 2), regime durability, a measure of repression/political terror, and the level of urbanicity. Additional time invariant variables included in the robustness checks include the natural log of population, a dummy variable indicating presidential or parliamentary systems, and ethnic fractionalization. The descriptive statistics of all of the variables are available in Appendix A.

We present two sets of models. The first set of models examines the relationship between economic inequality as an explanatory variable predicting two outcome variables – citizen grievance (country mean) and citizen polarization (adjusted country standard deviations).¹³ The second set of models predicts the incidence of nonviolent political protest as a function of income inequality, grievance, and polarization. The first set of models include linear models with fixed effects as well as lagged dependent and independent variables.¹⁴ Since the protest variable is a count variable, we report negative binomial regressions for the protest models.

or where resources increase an individual's willingness to pay the costs of protest activity (Cicchetti, Freeman, and Haveman 1971).

Rather than this focus on the level and change in a country's economic conditions, the "political opportunity structure" approach to explaining protest activity emphasizes that institutional structures and political processes influence the level of protest activity by establishing a level of political "openness" (Dalton et al. 2009; Vrablikova 2014). Consistent with this general orientation, studies have found that party identification is a predictor of protest activity (Finkel and Opp 1991). In contrast, others argue that protest activity emerges precisely when governments attempt to stunt conventional channels of participation (Kitschelt 1986).

¹³ Both the grievance and polarization variables are mean centered since in the protest models we include interactions between these two variables.

¹⁴ Hausman tests suggest that in all cases fixed effects models are preferred to random effects specifications.

V. RESULTS

Table 1 presents the results of the models predicting grievance and polarization. Income inequality is significantly related to both grievance and polarization, with a strong positive effect of inequality on polarization and a curvilinear effect of inequality on grievance. Since the inequality variables are mean centered, the significant coefficient for inequality squared in the grievance model indicates that the positive association with grievance accelerates as inequality increases. The lagged dependent variables, poor economic growth, high levels of inflation, political terror/repression, and regime durability are also predictive of high levels of grievance and polarization.

TABLE 1: PREDICTING GRIEVANCE AND POLARIZATION

	Grievance		Polarization	
Grievance _(t-1)	0.374**	(0.037)		
Polarization _(t-1)			0.210**	(0.039)
GINI _(t-1)	0.247**	(0.082)	0.154*	(0.07)
GINI ² _(t-1)	0.011*	(0.005)	0.000	(0.005)
GDP/cap _(t-1)	-1.484	(1.567)	0.428	(1.388)
Growth _(t-1)	-0.174**	(0.04)	-0.119**	(0.036)
Ln Inflation _(t-1)	-0.429*	(0.206)	-0.581**	(0.189)
Legislative Election _(t-1)	0.350	(0.34)	-0.203	(0.308)
Executive Election _(t-1)	-0.487	(0.496)	-0.365	(0.446)
Polity _(t-1)	0.427+	(0.22)	-0.037	(0.189)
Regime Durability _(t-1)	-0.155**	(0.05)	-0.159**	(0.045)
Political Terror _(t-1)	1.071**	(0.333)	0.214	(0.299)
Urbanicity _(t-1)	0.149+	(0.09)	0.049	(0.08)
Constant	2.872	(15.436)	-1.725	(13.729)
N	755		755	

+ denotes $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. Both models include fixed effects. Standard errors in parentheses. Significance stars are based on two-tailed tests.

Table 2 reports models predicting protest, with Model 1 including income inequality and the control variables but not grievance and polarization. Against most existing theories, yet

consistent with others, the model suggests that inequality is negatively and significantly related to protest. The addition of the grievance and polarization variables in Model 2 suggests that what is most important about the grievance/protest relationship is not the mean level of grievance but rather the dispersion of such grievances. The coefficients reveal that grievance is unrelated to protest, but polarization of grievance is positively related to protest ($p < 0.05$, one tailed test). As polarization increases, the likelihood of protest also increases.

TABLE 2: PREDICTING POLITICAL PROTEST

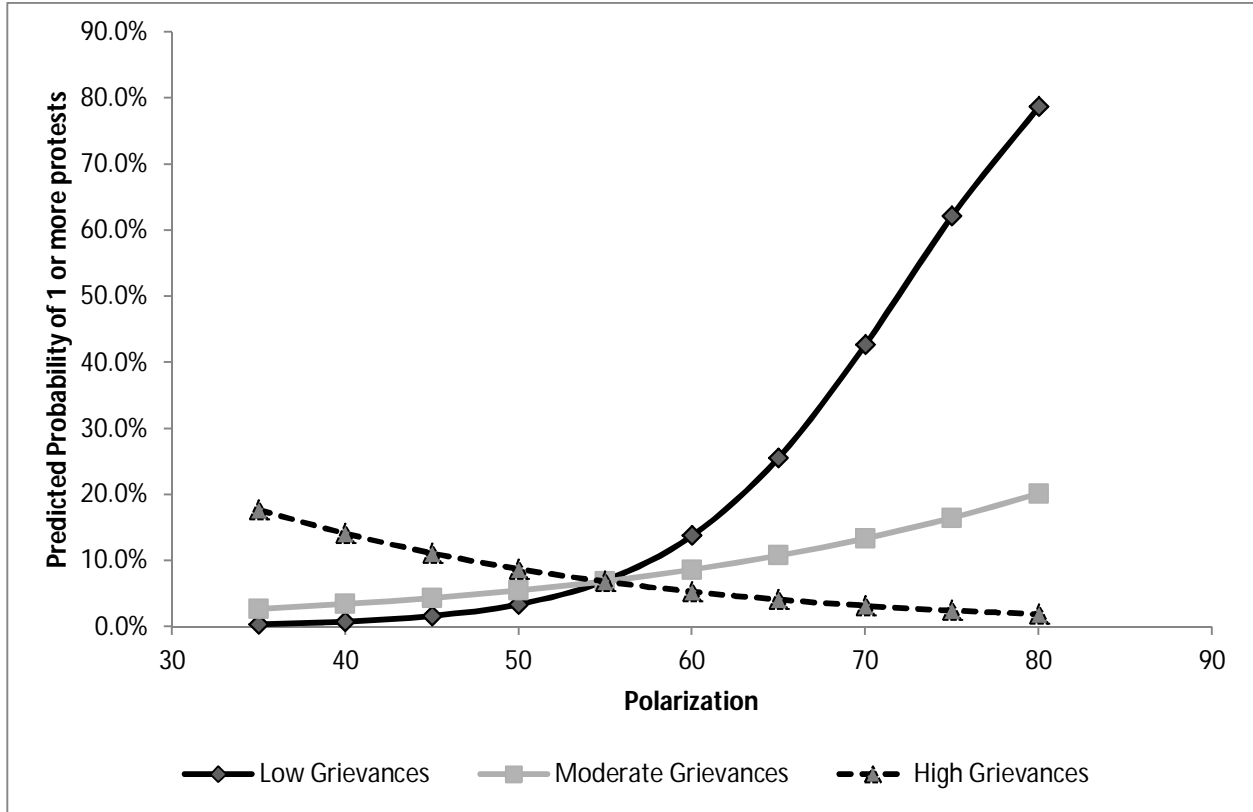
	Model 1		Model 2		Model 3	
Protest	0.075+	(0.046)	0.084+	(0.046)	0.086+	(0.046)
Grievance			0.009	(0.018)	0.024	(0.020)
Polarization			0.037+	(0.023)	0.046*	(0.024)
Grievance*Polarization					-0.004+	(0.002)
GINI	-0.117**	(0.044)	-0.123**	(0.045)	-0.130**	(0.044)
GINI ²	0.003	(0.003)	0.002	(0.003)	0.003	(0.003)
GDP/cap	0.768	(0.966)	1.018	(0.981)	1.721+	(0.888)
Growth	-0.054*	(0.022)	-0.046*	(0.022)	-0.062**	(0.024)
Ln Inflation	0.051	(0.112)	0.070	(0.112)	0.147	(0.108)
Legislative Election	0.116	(0.197)	0.095	(0.197)	0.259	(0.195)
Executive Election	-0.124	(0.284)	-0.094	(0.286)	-0.284	(0.287)
Polity	0.004	(0.082)	-0.002	(0.085)	-0.005	(0.066)
Regime Durability	-0.015	(0.024)	-0.012	(0.024)	-0.007	(0.021)
Political Terror	-0.245	(0.170)	-0.257	(0.171)	-0.235	(0.172)
Urbanicity	-0.129*	(0.057)	-0.123*	(0.057)	-0.120*	(0.055)
Constant	-0.023	(8.076)	-2.686	(8.222)	-4.556	(8.242)
N	897		897		897	

+ $p < 0.10$ * $p < 0.05$ ** $p < 0.01$. Cell entries report the results of fixed effect, negative binomial regressions. Standard errors in parentheses. Significance stars are based on two-tailed tests.

Gurr's (1970) theory also suggests that we would expect an interactive relationship between grievance and polarization on the one hand and protest on the other. According to grievance theory, we would expect the highest level of protest when grievances are most widespread (high average grievance) and there are large grievance differences across groups (high polarization). That is, adopting our language above we would expect to observe the most protests in *oligarchic* contexts. Model 3 tests this hypothesis and points to a different conclusion. That is, the model predicts that protest is actually most frequent in *majoritarian* contexts, or when average grievance is fairly low, but there is significant polarization in such opinions. That is, protest is most likely when many members of society are well served by the political system but a significant minority very clearly does not feel well served.

To illustrate this relationship more clearly, Figure 4 plots the predicted probability of at least one protest event across three different levels of grievance and a range of polarization values. In countries with high average levels of grievance, protest is essentially unrelated to polarization, with the predicted probability of at least one protest never more than 20% and actually declining modestly as polarization increases. On the other hand, while the probability of protest is quite low among polities with low to moderate levels of grievance and low levels of polarization (*inclusive* distributions), the predicted probability of protest increases significantly among more *majoritarian* distributions. At high values of polarization (80) and satisfaction (40), the model predicts that there is a 78 percent probability of at least one protest. This relationship perhaps suggests that the existence of aggrieved minorities who have doubts about the efficacy of more conventional participation channels are most likely to protest.

FIGURE 4: PREDICTED PROBABILITY OF AT LEAST ONE PROTEST, BY LEVELS OF POLARIZATION AND GRIEVANCE



VI. Conclusion

To recapitulate our findings, we have observed that countries with higher levels of income inequality also tend to have more polarized citizens. Moreover, countries with polarized citizens are more likely to experience nonviolent protest. Finally, protests are especially (indeed most) likely in countries where average citizen satisfaction is high but satisfaction is also polarized. These findings are new, and they prompt a number of additional puzzles.

First, the analysis suggests that while inequality leads to both greater levels of grievance and polarization, and that polarization and grievance are related to protest, the negative relationship between inequality and protest suggests that it is unclear how perceived grievances mediate the inequality/protest relationship. Indeed, the negative and significant coefficient

estimates for the effect of inequality on protest are hardly changed across the models, suggesting an effect independent of perceived grievances and variation in such grievances.

A possible explanation for this puzzling result could reflect the interaction between grievances and polarization. In contrast to Gurr's predictions, we found that protest is most likely when most citizens are relatively satisfied, but when there are aggrieved minorities, that is, what we term *majoritarian systems*. However, high levels of inequality are more likely to lead to what we termed *oligarchic systems* in which the majority of citizens are dissatisfied with the political system while a minority is satisfied. In direct contrast to Gurr, our findings suggest that such systems are actually the least likely to see protest. This finding is consistent with other works that suggest a demobilizing effect of inequality on participation (e.g., Solt 2006). Our contribution is to illuminate a mechanism by which inequality leads to this result.

An important final implication of our finding that polarization leads to protest is that it underscores the importance of political knowledge among citizens. Only when citizens are aware of how well the democratic process works for them relative to how well it works for their fellow citizens do they take to the streets.

VII. References

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VIII. Appendix A: Summary Statistics

	N	Mean	St. Dev.	Min	Max
Grievance	1042	64.93581	8.526368	40.96777	87.40012
Polarization	1042	53.85091	6.258634	36.36218	84.86587
Gini (average imputation)	1007	35.26988	9.63852	19.3986	69.10886
Protest	1015	0.4157635	1.213236	0	22
Ln GDP/cap	1008	9.354813	0.930272	5.703587	10.85082
Growth	1030	2.776054	4.790745	-44.9	18.28661
Ln Inflation	1030	1.727786	1.322055	0	8.706424
Legislative Election	1033	0.2904163	0.4541744	0	1
Executive Election	1034	0.1276596	0.3338719	0	1
Polity2	1042	8.692898	1.792215	0	10
Regime Durability	1042	30.59021	31.78594	0	201
Political Terror	1020	1.903922	0.9839658	1	5
Urbanicity	1037	67.58535	15.04106	13.444	97.4854