

A GROWING RIFT IN VALUES

Income Inequality's Impact on Mass Attitude Polarization

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October 21, 2013

Abstract

This analysis represents an initial exploration of trends in attitude polarization in a wide sample of OECD and non-OECD countries. Although the topic has been extensively tackled in the past in the idiosyncratic context of the United States, there is considerable evidence to suggest that the experience of the US in terms of elite polarization and attitude depolarization at the level of the citizenry is unique. Existing political economic analyses have been able to link income inequality with party polarization (Pontusson & Rueda, 2008), although a crucial assumption which they make (that income inequality affects party polarization through shifts in voters' attitudes) has never been empirically confirmed. Focusing on Left-Right ideological self-placement as well as attitudes toward income equality, toward state involvement in the economy, and toward welfare provision for a sample of 79 countries available through the World Values Surveys, my aggregate-level analysis seeks exactly this confirmation. The results suggest that attitude polarization can indeed be observed over time. Furthermore, multivariate analyses show that income inequality is a causal factor, contributing to an increased level of attitude polarization at the mass level. Finally, the connection between income inequality and mass attitude polarization cannot be due to a spurious relationship, as income inequality is shown not to be associated with elite polarization.

*I can be reached at Bosancianu_Constantin@ceu-budapest.edu. Working paper—please do not cite without permission. An earlier version of this paper was presented to my doctoral supervisory panel in September 2013—comments from Levi Littvay, Gábor Tóka and Carsten Schneider are gratefully acknowledged.

“I don’t believe this fight is in Washington or ever was. I think this is a street fight. It’s a man to man, so to speak, fight of going door to door.”

Jennifer Stefano, head of the Pennsylvania chapter of Americans for Prosperity, in “States are focus of effort to foil health care law”, *The New York Times*, October 18, 2013

What is described above as a “fight”, had been called “trench warfare” by Tim Phillips, the president of Americans for Prosperity, a conservative political advocacy group, just a few paragraphs before. A first-time observer of American politics might hastily dismiss as bold words that are uttered with the intent of rallying supporters, lacking a substantive attitudinal foundation and referring, possibly, to an attempt to impeach a very unpopular president. However, this is not so. The reality is far more worrying: the “fight” refers to an attempt to limit the applicability of an expansion of health coverage passed into law (the *Affordable Care Act*) by the US Congress in 2010. Although significant by American standards, the overhaul leaves matters largely unchanged for most Americans (the 50% who get their health insurance via their employers); the law impacts only those not currently covered, which are offered the chance to purchase different health care plans on an open marketplace, with the costs partly subsidized by the government. Free competition among providers would presumably drive costs down, freedom of choice for the consumer is maintained, health outcomes would be improved in the long run. And, yet, the antagonism between political sides has grown so much in recent years that an effort to prevent US states from opting in for this program is described as “warfare”. Furthermore, the law itself is compared with the “Fugitive Slave Act”¹ and called “the most dangerous piece of legislation ever passed in Congress” since the 1930s and an “existential threat” to the economy², while its proponents are depicted as “socialists” bent on enslaving the population. What elsewhere would be considered a major piece of legislation, granted, but nowhere near one that threatens the economic order or political life, has been framed as a Manichean struggle in the United States. How have things evolved to this point and, more importantly, what has caused them to unfold in this way?

1 Introduction

There are few other threats to functional democratic life as important and insidious as political polarization. At the mass level, in the short term its effects could certainly be considered beneficial, leading to clearer ideological cues for voters (Lupu, 2013), and per-

¹See <http://youtu.be/ug4ZHu8GM1w> [accessed October 19, 2013].

²Representative John Fleming (R.) of Louisiana, for *The New York Times*. See <http://www.nytimes.com/2013/09/13/us/politics/at-meeting-with-treasury-secretary-boehner-pressed-for-debt-ceiling-deal.html> [accessed October 19, 2013]

haps even increased political engagement and participation at the level of the citizenry, as the political game presents itself as having higher stakes. Over time, however, it becomes harder to find positive repercussions of polarization. At the party system level it can lead to gridlock in legislative activity, as factions find compromise harder to achieve (partly due to being 'held hostage' by an electorate which is equally uncompromising). It can have a self-reinforcing component, as party polarization could lead to voter polarization in attitudes, which then fuels the feedback loop to increased party polarization. Finally, it can turn political debate from a quasi-decent exchange of political opinions around major issues of the day into a fiery mudslinging battle of negative advertising and *ad hominem* attacks.

For all the negative consequences of polarization, there have been little empirical analyses of trends and determinants of attitude shift outside of the United States. Even when safely keeping the discussion on theoretical ground, the picture turns from *too little* information to *too much* confusion—different authors have conceptualized polarization in different ways (the distance between individuals or parties, the shape of the distribution of attitudes, partisan sorting, the growing disappearance of moderate voters or parties etc.) Although my analysis could not possibly clear up the convoluted mass of related terms and phenomena that are bundled up under the term “polarization”, I will make some attempts toward cataloging the various understandings, and clearly specify which of these I will be focusing on.

The ultimate goal is to suggest that analyses which show a connection between income inequality and partisan polarization, and which *automatically* assume that the effect is transmitted through voters' attitudinal change, are justified in making this leap of faith. My analyses show that, irrespective of what indicator of polarization in mass attitudes or of income inequality we choose to focus on, inequality is a statistically significant predictor for growing divergence in attitudes. Even when limiting my investigations, as I do here, to Left-Right self-placement as well as a set of three attitudes closely related to the functioning of the economic system, there is reason to believe that the economic redistribution dimension is still vitally important for voters, and a major component of Left-Right political debate across a wide range of democracies. At a deeper level, though, my analysis manages to verify the frequently stated but never empirically verified “accepted wisdom” according to which income inequality represents a perilous threat to democratic life. As old as the first work of comparative politics itself (Aristotle's *Politics*), the statement has oft been repeated but seldom investigated. The following pages suggest that one such mechanism is the growing gap in views regarding economic matters that emerges with rising income inequality.

The paper proceeds as follows: the following section will catalog the various understandings of polarization that have been used in the literature so far, as well as clearly indicate which of the varied meanings will be used in this analysis. The main distinction will be drawn between polarization at the level of mass attitudes, and polarization relating to the party system. Existing empirical results with respect to both these types will also be presented in this section. The subsequent two sections will detail the hypotheses to be put to the test, the data sources employed, the main theoretical constructs and statistical controls, as well as the methodology used. The analytic part of the paper will be split into three sections: one which does a broad overview of the relationship between income inequality and mass and party polarization, mainly in graphical form. The second part represents the main analysis, employing both univariate and multivariate tools. The third part undertakes a series of analyses that are meant to eliminate alternative causal pathways and to strengthen the conclusions. The last two parts of the paper discuss the results presented up to that point, and draw the appropriate conclusions.

2 Literature review

Few terms (with the possible exception of “culture” and a select group of others) with which political science routinely operates have encountered a level of conceptual ‘abuse’ akin to that experienced by *political polarization*. Even after accounting for the distinction between mass polarization (at the level of attitudes in the citizenry) and party (elite) polarization (either at the level of parties in the electorate, or in the legislature), the term has been used by various scholars to denote slightly different phenomena, each with a slightly different measurement indicator.

2.1 The concept

Regardless of the actor which is the “carrier” of polarization (ordinary citizens, political elites, or parties), the most basic understanding of polarization refers to increasing distance in ideological orientation, issue position, attitudes etc. If this distance is taken to stand for the ease with which political coalitions can be forged between disparate groups, then an increase might mean a growing irreconcilability between groups at the societal level. The growing distance might result in a stronger tendency for individuals to view members of their own group in a favorable light—a mini-community with shared interests and fate—and members of distant groups in an antagonistic light. This is an integral part of the *identity-alienation framework* (Esteban & Ray, 1994, 1999), which explains social conflict partly through the growing distance between groups.

The second part of the framework, which corresponds to another understanding of polarization, is a growing intra-group homogeneity. Although related, this should be kept conceptually separate from the distance between groups (Levendusky & Pope, 2011). Diverging group means on an attitude scale might not imply conflict as long as there is considerable overlap in the distribution of attitudes between different groups. To give an empirical face to the phenomenon, one could mention the way in which the Democratic and Republican parties in the United States looked like for the first half of the 20th century. The existence of quite liberal Republican (mainly from the Northeast) and conservative Democratic legislators (from the “solid South”) represented the overlapping area, which helped insure that compromise could easily be negotiated on a range of issues. Starting with the loss of the South by the Democrats in the 1960s and a lower magnitude loss of the Northeast by Republicans, this group of flexible partisans disappeared, being replaced by very conservative Republicans in the South, and very liberal Democrats in the Northeast. The result has been a growing homogeneity of the two parties, captured by McCarty, Poole, and Rosenthal (2006) through legislative votes. While this has been most thoroughly investigated at the level of political parties, a few analyses have tried to examine the phenomenon at the level of mass attitudes as well (DiMaggio, Evans, & Bryson, 1996; Hoffmann & Miller, 1997).

A related meaning of polarization has been that of a “carved out” ideological middle (Binder, 1996), which can be empirically understood as the result of growing group differences and intra-group homogenization, although it does not follow by necessity. Even with increasing distance between socio-demographic groups in the electorate or political parties, the potential for conflict might be unrealized if the political center is occupied by a sufficiently large group/party. This is likely to make either political extreme realize that the only way to achieve a majority in support is to attract the center by moderating its discourse or policy proposals. Absent such a cohesive center, discourse can easily slide into framing each political issue as a clash of opposing worldviews, and to make painfully clear for supporters of each political extreme the costs imposed if their respective side loses. As the recent example of the US suggests, any attempt at increasing health coverage, regulating virtually limitless political campaign spending, or eliminating tax loopholes for wealthy individuals or corporations instantly becomes branded as “socialism” or “totalitarianism”, while those who do the branding proudly cast themselves in the “capitalist” camp. Needless to say, bridges between the two are few and far between.

A fourth type of phenomenon closely resembling polarization is what some authors refer to as *partisan sorting*—an increasing match between one’s ideological leaning (plus the policy stances that derive thereof) and partisan identification (Claassen & Highton, 2009; Fiorina & Abrams, 2008; Levendusky, 2009). Seen from this perspective, the increasing

clarity of ideological cues coming from political parties can lead to a process of sorting: ideological leaning becomes distinctly associated with a political party label. Whereas in the past there might have been socialists (liberals) voting with parties of the Left (Right) on some issues and parties of the Right (Left) on others, *partisan sorting* leads to a closer identification between, say, liberalism and support for a particular party (e.g. the Democrats in the US). This strengthening of the connection between personal values and political attachments can result in unwillingness to compromise on issues or to bargain, as in-group and out-group sentiments begin to develop for those that find themselves part of a community that goes beyond shared values (e.g., US Republicans).

A fifth understanding of polarization refers to the extent to which attitudes at the level of the citizenry can undergo a process of constraint—a more Leftist/Rightist position on an issue is increasingly associated with similar positions on a variety of other issues (Converse, 1964; Granberg & Holmberg, 1996; Peffley & Hurwitz, 1985). Taking as an example the particular political context of the United States, this would mean that a more liberal stance on abortion will increasingly be associated with support for increased taxes on the wealthy, against state deregulation, and in favor of reduced spending on defense. Whereas in the past some of these attitudes might have been disconnected from each other when empirically examining the citizenry, a variety of causes (growing elite polarization, rising levels of education, increasing news media penetration) might lead to their alignment.

Parallel to this, but at the societal level rather than the individual one, we can find a sixth understanding of polarization—a situation in which political cleavages are increasingly cumulative (overlapping), rather than cross-cutting (Sani & Sartori, 1983). The consequence of this refers again to the potential for political conflict, as majorities could be hard to produce on an issue-by-issue basis. The converse of this is a situation where cleavages are cross-cutting, which makes politicians seeking the vote moderate their electoral appeals, as they cannot risk splitting their electorate by taking extreme positions on issues (Goodin, 1975).³

2.2 Party system polarization

As polarization in party positions is not the topic I wish to focus on in this paper, I will only expend a limited amount of space and time on describing the results of existing

³I have left out studies which refer mainly to policy stances of political parties, and the gap between these and their voters' stances—what has sometimes been called “party policy extremism” (Dow, 2001, 2011; Ezrow, 2008). I have also omitted what Sartori (1976) calls “space elasticity”—the difference in policy positions between the two most extreme parties in the ideological space—which is, after all, a concept based on distance.

empirical investigations into the topic. The earliest analyses (e.g., Sigelman & Yough, 1978) had focused on national characteristics such as GDP per capita or the extent to which the political system tolerates opposition. The authors find that equality of opportunity (proxied by the share of the population enrolled in secondary and tertiary education) has a *direct* negative effect on polarization (since it homogenizes the population), as well as an *indirect* positive one, since it leads to a higher regime tolerance for political opposition, which translates into a higher level of polarization.

In contrast, starting from the theoretical groundwork laid by Downs (1957) and Cox (1990), more recent empirical work has emphasized the influence of electoral system characteristics on centripetal or centrifugal tendencies in party system dynamics. Dow (2001) brings tentative evidence, derived from four country-level case studies, that the type of electoral system (majoritarian vs. proportional) has an effect on how spread out from the center of the distribution of voters parties choose to locate themselves. Whereas in Canada and France (majoritarian systems) parties cluster fairly close to the center of the distribution, Israeli and Dutch party systems reveal the existence of centrifugal competition tendencies. This is attributed by the author to their proportional nature. Similarly tentative observations are presented by Budge and McDonald (2006):

One can, however, argue for a somewhat blurred tendency for countries having a two-party system (facilitated by SMD) offering less choice to electors [...].
(p. 459)

Drawing on a more extensive sample of 15 party systems, however, Ezrow (2008) finds that the proportionality of the electoral system has little effect on the dispersion of parties' policy positions relative to the mean position of their respective voters. The results obtained by the author suggest that neither the degree of proportionality nor the actual number of parties, has any impact on the degree of party policy extremism, even when using different measures for policy extremism. In a rebuttal targeting these results, Dow (2011) uses a new sample, as well as new indicators for proportionality of the electoral system: the effective threshold of representation, and district magnitude.⁴ The sample size grows to 53 elections from 31 countries, between 1996 and 2006. The results suggest that as the electoral threshold increases, the compactness of the party system also increases; on the other hand, as district magnitude increases (the system becomes more proportional), the compactness decreases. The effective number of parties, on the other hand, has a negative relationship with compactness, which was completely unexpected: party systems which are more fragmented display more centripetal competition.

⁴The author explains Ezrow's null findings by pointing at the small sample size, as well as the fact that voter positions and party positions are mostly separated temporally by one or even two years.

With respect to the number of parties, the result contradicts the findings of [Andrews and Money \(2009\)](#), which show that the number of parties in a system has a direct and positive effect on the degree of party dispersion in the system. This effect is visible up to and including five-party systems, after which no subsequent dispersion can be observed; when controlling for number of parties, the proportionality of the electoral system (measured as district magnitude) loses its statistically significant effect. The authors rely on a bi-dimensional policy space (economic and social), but rely on a measure of dispersion which differs from that used by other authors—the difference between the two most extreme parties on each of the two dimensions. The study of [Curini and Hino \(2012\)](#) represents the latest attempt to continue in the vein opened up by Sigelman and Yough. Contrary to results which had found an inconsistent effect for the type of electoral system (majoritarian vs. proportional) and the number of parties in a system, Curini and Hino focus on a different set of variables. Through their analysis, they are able to show that these two variables, in fact, have no effect on the degree of political polarization in a party system. In their place, the authors propose a set of variables related to either the institutional framework (average district magnitude) and the party system (number of parties, habits of coalition formation), or the characteristics of voters (the share of independent voters in the electorate) as determinant factors for the degree of polarization.

Only a few studies have examined specifically the link between income inequality and a tendency for polarization in the party system from a cross-national perspective. Most of these have been concerned with the case of the US, where income inequality has been associated with increasing party polarization at both the national ([McCarty et al., 2006](#)) and state ([Garand, 2010](#)) level. [Pontusson and Rueda \(2008\)](#), in an analysis of 12 OECD countries, show that income inequality leads to a more polarized party system, although this depends on the type of inequality as well as on the level of working class mobilization in a country. Leftist parties are more sensitive to rising wage inequality, leading them to gradually shift to the Left at high levels of working class mobilization, whereas rightist parties are insensitive to this. They are, however, responsive to rising household inequality, gradually shifting further to the Right only at low levels of working class mobilization. Particularly intriguing is the mechanism through which the effect is transmitted from the aggregate level economic climate to party positions—the authors assume that this happens via shifts in the placement of voters, as they respond to the changes in economic fortunes.⁵ Although this is a reasonable assumption, Pontusson and Rueda have difficulties recon-

⁵“We assume that parties observe shifts in voter opinions and the policy positions of their competitors between elections and take such shifts into account when they prepare their election programs.” ([Pontusson & Rueda, 2008](#), p. 332). A few pages later the same assumption is reiterated: “Our theoretical model implies that causality runs from the distribution of income to party positions via the policy preferences of core constituencies, as well as the policy preferences of the median voter in the electorate as a whole.” (p. 339).

ciling it with the now-established lack of political information of the average voter.

[...] it seems clear that voters operate with only limited, sometimes very distorted information about what the distribution of income looks like and where they themselves fall in the distribution of income. (Pontusson & Rueda, 2008, p. 347)

If voters don't have a good sense to what extent inequality has increased or decreased, or where they fit in the distribution of income, then how could worsening income inequality lead them to shift their ideological placement in response to this, which ultimately influences parties' positions?⁶ Later analyses have largely bypassed this point. For a sample of 17 European democracies Akdede (2012) finds that income inequality positively impacts political polarization and that it negatively impacts voter fractionalization (defined as the likelihood that two voters selected at random vote for different parties). Nevertheless, the findings can be considered highly unreliable, mainly due to a low sample size (41 cases). This continues an effort began earlier (Akdede & Kentmen, 2011), which resulted in similar conclusions with respect to voter fractionalization: income inequality negatively impacts fractionalization.

2.3 Mass polarization

As with party polarization, most analyses of mass attitude polarization limit themselves to the context of the United States, as well as to description of trends over time, rather than explanations of what explains variation in trends. The study of DiMaggio et al. (1996) represents the first extensive analysis of mass polarization trends in the United States, resulting in the conclusion that for almost all attitudes (with the exception of abortion) there has actually been depolarization.⁷ The novelty of their study also lies in their attempt to provide multiple measures for mass attitude polarization, based on:

1. *Dispersion* of a particular attitude in the electorate (measured through variance);
2. *Bimodality* of the distribution (measured through kurtosis⁸);

⁶Sigelman and Yough (1978, p. 375) cite Robert Dahl making a similar point: "[...] the causal chain connecting objective socioeconomic conditions with citizen attitudes and behavior is long and tenuous [...]".

⁷The authors also find a considerable degree of *partisan sorting* over time.

⁸The interpretation of (excess) kurtosis in this situation is straightforward, keeping in mind that its possible values are bounded at -2 (with no upper bound). A value of 0 denotes a distribution that is normal, whereas positive values denote a distribution with a higher peak than a normal one, and negative values denote a flatter distribution peak than that of the normal one. Evidence of polarization exists if the kurtosis value exhibits a trend from 0 into a negative direction; a trend from a positive value toward 0 would constitute evidence of depolarization.

3. The extent of attitude *constraint*—the closeness of association between different attitudes, within and across opinion domains (measured by means of Cronbach's α);
4. The extent of *consolidation*—the strength of the association between different social characteristics and attitudes at the level of the citizenry.⁹

Baldassarri and Gelman (2008) confirm the results of foregoing studies, in the sense of pointing to a phenomenon of *partisan sorting* that is at play, rather than increasing attitude convergence or constraint. Their analysis also confirms that, in the context of the US, economic issues remain the most important class of attitudes when it comes to correlations with party identification. To the extent that there has been increasing consistency in attitudes, this is evident only for the wealthiest third of the population.¹⁰ All in all, this represents their most valuable contribution to the debate—the wealthiest 33 percent of the population has undergone a process of gradual ideological and attitudinal consistency, whereas the poorest 33 percent show little sign of alignment (except on moral issues). Later analyses confirm that, for most attitudes apart from abortion, the United States has experienced attitude depolarization.¹¹

Attitude differences based on income categories are, perhaps, the most natural place to search for an impact of external economic conditions such as income inequality.

Citizens will think differently about many social and political issues depending on where they sit in the stratification order. [...] Because inequality is rooted in the relative differences between individuals and groups, such attitudinal gaps can be expected to persist even in the face of rising affluence, and should further strengthen in periods when inequality widens. (McCall & Manza, 2011, p. 552)

A considerable number of social phenomena are experienced differently by those at opposing ends of the income distribution. This is partly due to the availability of money (experiencing the justice system as a poor citizen who can barely afford representation of any kind, or as a rich one with access to top legal counsel), but also to a host of factors

⁹Here the authors rely on an examination of kurtosis and means between groups, although it's not clear why they avoid a simple summary measure such as η^2 , or the intraclass correlation coefficient (ICC)—an indicator of the extent to which variation is between rather than within groups.

¹⁰"A similar and more striking pattern was observed among the richest third of the population, who have become more coherent in their political preferences, and in the relation between these preferences and partisanship, while the poorest have remained essentially inconsistent. [...] The wealthier part of the political constituency knows well what it wants, and it is likely, now more than in the past, to affect the political process." (Baldassarri & Gelman, 2008, pp. 441–442)

¹¹"Almost all social attitudes – even about emotionally charged issues such as homosexuality – are not polarized. Moreover, most social attitudes are converging, becoming even more similar over time." (Baker, 2005, pp. 103–104; see also J. H. Evans, 2003)

correlated with disposable income (educational access, housing, etc). Empirical analyses in the US, however, find that there is little difference in attitudes between the different income groups (see [Ura & Ellis, 2008](#); but, see [McCall & Manza, 2011](#)), although they also find that the magnitude of the difference really depends on the policy area that is being examined ([Gilens, 2009](#)). An explanation for why there might not be big differences between groups is that expectations of upward mobility may make them reluctant to embrace views which would ultimately be damaging to them. [McCall and Manza \(2011\)](#), in a very brief analysis, find considerable differences between income groups in terms of support for redistribution and opposition to inequality, and smaller differences in terms of support for government spending and support for abortion (in particular, for cultural issues).

[...] income has the broadest impact across outcomes; it is the only indicator of class that resulted in significant differences between the bottom and the top groups for all four outcomes. This may reflect the fact that the income measure does not confound education and material well-being. ([McCall & Manza, 2011](#), p. 563)

For the US, the broad conclusion is that “the past three decades have produced a good deal of *partisan polarization* but much less, if any, *societal polarization*.” ([Bartels, 2013](#), p. 11)¹² For other political systems, however, the evidence is spotty and limited to a few countries. Germany exhibits a societal depolarization at the level of most political attitudes between 1980 and 2010 ([Munzert & Bauer, 2013](#)), as does Netherlands between 1986 and 1998 ([Adams, De Vries, & Leiter, 2012](#)), and the United Kingdom between 1987 and 2001 ([Adams, Green, & Milazzo, 2012a, 2012b](#)). This takes place both at the level of public opinion, as well as party positions on issues, providing circumstantial evidence of a connection between the two phenomena. For the United Kingdom the trend is visible across all socio-demographic strata, leading the authors to conclude that the UK has experienced *electorate-wide depolarization* ([Adams, Green, & Milazzo, 2012b](#), p. 644).

In one of the few cross-national analyses of trends in mass polarization, ([Bartels, 2013](#)) points out this very scarcity of systematic analyses of shifts in social values and what consequences these have for political phenomena. He focuses, in particular, on how social value change has led to political polarization in the context of European democracies, over the 1980s, 1990s, and 2000s (based on European Values Surveys data). The author

¹²But see the conclusions of [Abramowitz and Saunders \(2008\)](#) who argue that there has been polarization in attitudes over time in the US. Focusing on ideological divisions (as opposed to socio-economic ones), the authors present sufficient evidence to make their point. At the same time, they do not engage with the literature that argues that attitudinal differences between subgroups based on age, education, income, or gender, have either been stable or even subsided over the past three decades.

finds that there is a link between partisan polarization (what other authors refer to as *partisan sorting*), *societal polarization* (that is, in mass attitudes), and the resulting change in party systems. More importantly for the argument that the author tries to make, value change at the individual level is an exogenous process driving political polarization. This is an argument that brings Bartels close to the assumption made by [Pontusson and Rueda \(2008\)](#), although the author never ventures into explaining what causes shifts in individual values.

The focus in this paper will be exclusively on polarization in mass attitudes. Following in the tradition of [Sani and Sartori \(1983\)](#), the referent of polarization will be the values which individuals hold, rather than specific issues of policy about which there might be societal disagreement. Similar to the path carved out by this three-decade old classic study of polarization, I will examine both divergence in Left-Right ideological placement, as well as in a set of attitudes which should be most amenable to change as a result of rising income inequality—opinion about the importance of pursuing income equality, about the need for more/less government ownership of business, and about the need for more/less government responsibility in providing for the basic needs of citizens. In this understanding, growing divergence in these attitudes among the citizenry would result in increased social tensions, which presumably would be transferred at the level of elite interactions [Sani and Sartori \(1983, p. 308\)](#). The divergence can best be interpreted as an increasing incompatibility between groups' worldviews with regard to income equality, government responsibility, or how best markets function. Rather than referring to a particular policy issue (e.g., abortion, gay marriage, the invasion of Afghanistan, aid to Africa), the shift occurs in foundational beliefs for political man.

In the perspective adopted here, political polarization at the mass level can be defined as a process of opinion shift in the aggregate characterized by “a movement from the center toward the extremes” of a particular attitude's distribution in the population [Fiorina, Abrams, and Pope \(2008, p. 557\)](#). I will examine here both polarization at the aggregate level, as well as between societal subgroups (see also [DiMaggio et al., 1996](#); [J. H. Evans, 2003](#); [Fiorina & Abrams, 2008](#)) based on income. If rising income inequality can indeed be associated with shifts in public opinion, then we can safely establish a connection between inequality and shifts in party polarization that passes through changes in voters' values.¹³

¹³This represents a longer term project, for which information about the party preference of individuals would be needed. Even if my analysis would find polarization, it wouldn't reveal whether it can be attributed to leftist supporters going further Left, rightist voters going further Right, or both at the same time.

3 Hypotheses

Due to the largely exploratory nature of the analysis, I will not venture into testing complex hypotheses. The only statement put to the test in the following analysis is that income inequality has a statistically significant positive effect on the level of attitude polarization across national contexts. This can be verified across all four indicators of polarization mentioned above.

H₁: A higher level of income inequality is associated with a higher standard deviation across all four attitudes investigated (ideological self-placement and three attitudes related to the economic system).

H₂: A higher level of income inequality is associated with increased bimodality (a lower kurtosis) of the distribution of all four attitudes.

H₃: A higher level of income inequality is associated with an increased level of intragroup homogeneity for income groups, and increasing intergroup heterogeneity (increased ICC).

H₄: A higher level of income inequality is associated with increased attitude constraint at the level of the three economy-related attitudes investigated here (higher Cronbach's α).

4 Data and methodology

The data on which the hypotheses will be tested is the 1981–2008 cumulative World Values Survey and European Values Survey file (EVS, 2011; WVS, 2009).¹⁴ The merged data comprises about 102 countries and regions of the world, in which representative samples of individuals were collected, for a total of about 423.000 respondents. My analysis included all democracies which at the time of data collection were given a rating of at least “partly free” by the Freedom House foundation—a list of the countries and years can be found in Table 1.

*** Table 1 ***

Although I am relying on the findings of Sani and Sartori (1983) in assuming that behind a respondent's Left-Right placement lies a preferred position on a set of policy issues, I also choose to investigate a set of issues particularly connected to the economic sub-dimension of Left-Right placement: attitude toward the desirability of income equality, toward the desirability of increased government ownership of business, and toward the desirability

¹⁴Detailed merging instructions for the two separate data files can be found at <http://wvsevsvdb.com/wvs/WVSIntegratedEVSWSInstructions.jsp?Idioma=I> [Accessed September 9, 2013].

of increased government responsibility in providing for the basic needs of citizens. My main dependent variable is, therefore, a respondent's Left-Right self-placement (measured on a 10-point scale, with higher values designating a more Rightist position): "In political matters, people talk of «the left» and «the right». How would you place your views on this scale, generally speaking?" Additional variables refer to specific attitudes relating to the economic system:

1. Attitude regarding the desirability of income equality: "Now I'd like you to tell me your views on various issues. How would you place your views on this scale ... «Incomes should be made more equal vs. We need larger income differences as incentives»?"
2. Attitude regarding the desirability of government ownership of business: "Now I'd like you to tell me your views on various issues. How would you place your views on this scale ... «Private ownership of business should be increased vs. Government ownership of business should be increased»?"
3. Attitude regarding the desirability of government responsibility in providing for basic needs: "Now I'd like you to tell me your views on various issues. How would you place your views on this scale ... «People should take more responsibility to provide for themselves vs. The government should take more responsibility to ensure that everyone is provided for»?"¹⁵

Initially, I intended to include three more economic items, such as the self-placement on a scale measuring preference for governmental regulation vs. freedom for private enterprise, view regarding the responsibility for a pension at retirement (the state vs. the individual), or the view regarding the primary responsibility when it comes to housing (again, the state vs. the individual). Unfortunately, compared to the first three items, which have between 233.000 and 264.000 valid responses (out of 305.000 individuals in my sample), the latter triumvirate only contains between 14.000 and 36.000 valid answers, making them unsuitable for the kind of large-scale cross-national analysis attempted here.

I closely followed the strategy employed by DiMaggio et al. (1996), in the sense of computing for each of these variables three measures of polarization: standard deviation (indicating dispersion of the distribution), kurtosis (potentially indicating bimodality), ICC (the extent to which the members of a particular income group are more similar to each other in terms of attitudes, and more distinct from members of other groups). The fourth measure was computed for all three economy-related attitudes: Cronbach's α , as a measure of

¹⁵The scale of the first item was reversed so that in the case of all three items a higher value designates a more Leftist position on the issue.

the strength of association between them (the proportion of the total variance among the three items that is explained by an assumed single latent factor). As a cross-check on the results obtained with the intraclass correlation coefficient, I also used η^2 as an alternative measure, computed as the ratio between two numbers obtained from a standard analysis of variance: the between treatment (in my case, income groups) sum of squares, and the total sum of squares.¹⁶

4.1 Main analyses

My independent variable of interest is income inequality at the aggregate level (country year). Given that income inequality presumably has a weak but cumulative effect on attitudes, I used in the models presented here the average of the Gini index of inequality for the three years preceding the moment in which the WVS survey was fielded in a particular country. Information about Gini indices was obtained from the Standardized World Income Inequality Database, version 4.0 (Solt, 2009).¹⁷ The Gini index used here denotes inequality in net income (after taxes and transfers).

The other independent variables used are partly based on the analyses done by Sigelman and Yough (1978). I included GDP per capita, as their analysis suggests it has a statistically significant effect on polarization. Rather than including variables such as the number of parties, or the proportionality of the electoral system, essentially representing stand-ins for party polarization, I chose to include a direct measure of party polarization along a generic Left-Right axis. This was computed based on Comparative Manifesto Project data¹⁸ (Budge, Klingemann, Volkens, & Bara, 2001; Klingemann, Volkens, Bara, Budge, & McDonald, 2006; Volkens, Lehmann, Merz, Regel, & Werner, 2013), by relying on the formula proposed by Taylor and Herman (1971): the weighted average of all parties' placements on the Left-Right axis, with the parties' vote shares acting as weights. As voters will tend to follow the ideological cues transmitted by parties (see G. Evans & Tilley, 2012), it stands to reason that public opinion will be more dispersed in a political system where parties are more polarized.

$$\text{Left} - \text{Right polarization} = \sum_{i=1}^N f_i(x_i - \bar{x})^2$$

In the equation above, N is the number of parties, f_i is the vote share won by party i in an election, x_i is the Left-Right placement score party i has, and \bar{x} is the mean of Left-

¹⁶See also Eijk, Schmitt, and Binder (2005).

¹⁷Dataset was released in September 2013, and is available from <http://myweb.uiowa.edu/fsolt/swiid/swiid.html> [accessed September 15, 2013].

¹⁸Data is available from: <https://manifestoproject.wzb.eu/> [Accessed September 19, 2013].

Right scores in a political system. All of the information needed to compute the index was available in the CMP data; unfortunately, the data mainly covers OECD nations in my sample. In certain instances, a measure of polarization could not be computed for the same year in which respondents in the WVS/EVS surveys were interviewed. When this situation arose, I chose the nearest year for which data was available in the CMP; if this was more than 2 years in the past, I chose the closest measurement in the future. For most instances, though, a CMP measure could be computed either for the same year, or for the previous year. Considering that parties do change their position on issues, but are constrained to do so rather slowly, and in an age of constant public opinion polling these positions could be made public even a year ahead of an election, I find this temporal discrepancy between CMP and WVS/EVS tolerable (see also [Eijk et al., 2005](#), pp. 184–185, fn. 20).

A final variable included in the model is a measure of regime durability from the Polity IV dataset ([Marshall, Jaggers, & Gurr, 2011](#)). The measure refers to the number of years that have passed since the last regime change has occurred in a country—given that all countries in my sample are democracies, this indicates the number of years passed from the last transition from authoritarianism. To reduce the number of outliers, the variable was top coded at 100 years; this affected countries like the United States, UK, or New Zealand. The assumption, as mentioned above, is that in countries with a longer tradition of democratic life will have a more consensual public attitude with respect to the extent of government intervention in the economy or the need for government provision of social services.

In the analysis, I have tried to follow the strategy pursued by [DiMaggio et al. \(1996\)](#) in terms of focusing on four indicators of attitude polarization (standard deviation, kurtosis, ICC, and the extent of attitude constraint), and presenting their relationship with income inequality. In the second part of the analysis I will try to show that income inequality is a consistent predictor of attitude polarization, by including it as an independent variable in a series of hierarchical linear models ([Bryk & Raudenbush, 1992](#); [Raudenbush, 1989](#); [Snijders & Bosker, 1999](#); [Steenbergen & Jones, 2002](#)) where the four indicators of polarization are dependent variables. Unlike [Curini and Hino \(2012\)](#), whose sample size preclude them from using a more effective measure than cluster-corrected standard errors for clustering in their data, my sample size allows me (at the limit) to use such models and properly account for the hierarchical nature of the sample.

4.2 Causal checks

The cross-checks on the main statistical analyses involve a different set of variables, also employed by [Brady and Leicht \(2008\)](#) in their analysis of the determinants of income inequality. In this part of the analysis I attempt to show that the causal chain does not run from elite polarization to income inequality (via inequality-enhancing policies)—for this I include a host of other predictors of income inequality. The dependent variable in these models is the Gini index of net income inequality, for the same year as that of the observations for the independent variables (additional models with a lag of 1, 2 and 3 years for the Gini index were also tested).

The percentage of children (below the age of 15) and elderly (above the age of 65) are obtained from the World Bank Indicators dataset; [Brady and Leicht \(2008\)](#) show that they are consistent predictors of income inequality. GDP per capita and net foreign direct investment (henceforth, FDI) are also included as statistical controls; net FDI is computed as the difference between outflows and inflows. FDI can be considered to be an indicator of the extent of exposure of the economy to the forces of globalization—the more a country is exposed, the higher its level of income inequality is assumed to be. This can occur both through more intense technological rate of change, as well as a higher vulnerability of workers to outsourcing those jobs that involve low skills. Both indicators were obtained from the World Bank Indicators dataset.

Due to the gender gap in wages, a higher percentage of women in the labor force is assumed to drive up income inequality. A similar rationale can be used for the next indicator, the share of the labor force employed in agriculture – because wages are more compressed in agriculture than in any other areas of the economy, a higher number of people working in agriculture should lead to a lower level of income inequality. Both indicators were obtained from World Bank data.¹⁹ Educational inequality can be assumed to be directly associated with income inequality, as education is a powerful predictor of income over the life course. Data has been obtained from ([Wail, Said, & Abdelhak, 2012](#)).

The last set of indicators refers to a set of political factors which operate as a modulating influence on the effect economic forces have on inequality. Union density can be taken as a proxy for the strength of unions in a country. Where unions are strong they can maintain a relatively compressed wage scale, as well as delay the process of outsourcing, both of which result in a lower level of income inequality. Union density data has been obtained from Jelle Visser's ICTWSS dataset, version 4.0 (April 2013).²⁰ Left party cumulative power

¹⁹See <http://data.worldbank.org/indicator>.

²⁰Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts in 34 Countries between 1960 and 2007 (updated in version 4.0 until 2012). Available at <http://>

represents a cumulative score of the yearly percentage of left seats as a share of all seats held by government parties, and it can be considered to be a measure of the extent to which Leftist parties have been in power over the course of a country's history. The data has been obtained from Evelyne Huber, Charles Ragin, John D. Stephens, David Brady and Jason Beckfield's *Comparative Welfare States Dataset*.²¹

5 Initial graphical examination

The figures discussed in the following paragraphs are intended to suggest that in all indicators examined in the following pages (averages, measures of variance or kurtosis etc.) there has been considerable cross-national variance in trends between the 1980s and the 2000s, heterogeneity which warrants explanation. At times, I will also point out that behind seemingly stochastic trajectories lie weak but visible trends in basic attitudes concerning the economic system.

*** Figure 1 ***

A cursory look at Figure 1 shows that in terms of the aggregate Left-Right placement of citizens, most OECD countries experienced a gradual shift to the Left over three decades, finding which is consistent with the results of other analyses (Bartels, 2013). The figure shows that very few countries moved in a rightist direction in terms of the self-reported placement of the citizenry.²² As opposed to OECD countries, non-OECD ones (figure not shown here) largely maintained their aggregate Left-Right score, or moved further to the Right. The same trend can be observed if we focus on Figure 2, depicting trends in the aggregate opinion on whether incomes should be made more equal for OECD countries, as well as for the other two attitudes I am concerned with (not shown here): preference for more government ownership of business, and for more government responsibility for maintaining the provision of services who attend to the basic needs of individuals

*** Figure 2 ***

I don't intend to carry the discussion further, although the shifts seen here should definitely give an observer food for thought regarding the potential implications for political engagement of a Leftist public, but a more Rightist party system. Over the 1980s and

www.uva-aias.net/208 [accessed October 12, 2013].

²¹Available at <http://www.unc.edu/~jdsteph/common/data-common.html> [accessed October 19, 2013].

²²The graphs present linear trends, although Bartels (2013) highlights that the movement of public opinion acts largely as a counter-weight: a decade of Leftist (Rightist) trend is counterbalanced in the following decade by a move in the opposite direction. For my basic exploratory purposes, linear trends are equally suggestive.

1990s, socialist and social-democratic parties in countries such as the United Kingdom, Austria, Finland, France, Italy, Netherlands, or Sweden have all gradually moved toward a more centrist position, with Denmark being the stationary outlier. Over the same period of time, liberal or conservative parties have been moving to the Right (Knutsen, 1998). Although not all party systems have experienced similar shifts, the growing divergence between voters and parties suggested here is correlated with drops in political participation and engagement over the same time period.

*** Figure 3 ***

Similar trends are harder to distinguish when we turn our attention to party polarization (see Figure 3). The figure is constructed with the goal of suggesting that there has been considerable variability in trends of party polarization between countries. Even if we restrict our focus to those countries for which we have uninterrupted observations for the past 50 years, we can clearly see that some countries have experienced a trend of polarization, whereas others can be best described with the *term de-polarization*. The general impression does not change if we choose to also take into account the countries for which we have data starting with the 1990s, in the right part of the graph (mainly post-communist countries).

5.1 Standard deviations

Mirroring this heterogeneity are trends for mass attitude polarization as measured through the standard deviation of Left-Right self-placement, presented in Figure 4. The image is understandably subdued, as standard deviations in an attitude do not easily shift (a more dynamic picture would have emerged with variance). Even so, we can easily see that some countries have experienced an increase in polarization at the mass levels, others have not, and a smaller third group has experienced growing consensus.

*** Figure 4 ***

What about the hypothesized link between income inequality and polarization at the level of mass attitudes? Figure 5 presents the first clues as to the existence of the relationship. Higher levels of income inequality (as measured by an average of the Gini coefficient for the preceding three years) are weakly associated with higher polarization (as measured by standard deviation) in self-reported ideological placement. It is certainly true that the uncertainty around the trends presented in Figure 5 prevents me from drawing strong conclusions. At the same time, if I would choose to pool the countries, the bounds of uncertainty would be reduced to the point where a clear direct relationship would be

evident (figure not shown here).

***** Figure 5 *****

Focusing on the standard deviation of the other three economy-related attitudes examined here the same dynamic is observed over and over again²³:

- A direct relationship between income inequality and polarization in each of these self-reported preferences, when examined in the aggregate;
- The relationship is maintained even if a distinction is made between OECD and non-OECD countries in the sample;
- Some heterogeneity in how countries respond to rising income inequality in terms of the polarization in these attitudes. Just to offer an example, India between 1990 and 2006 exhibited a considerable level of polarization in attitude toward income equality even though income inequality (as measured by the Gini index²⁴) barely increased. Over the same period of time, the United States experienced a significant increase in income inequality, while at the same time showing attitude de-polarization.

5.2 Kurtosis

The following figures depict trends in the indicator of kurtosis for the distribution of the attitudes I've been discussing so far. The main message to take from these is that inequality seems to have an impact on the shape of the distribution of certain attitudes (toward income equality) but not others as well (ideological placement). The use of kurtosis here might be challenged on the grounds that it automatically assumes that the distribution is bimodal at the extremes, even though certain attitudes might have a trimodal or even more complex distribution. To this, my counterargument would be that kurtosis is the only summary measure widely available in statistical packages of the peakedness of a distribution; doing away with it would produce no obvious heir.

***** Figure 6 *****

***** Figure 7 *****

²³Figures are available from the author upon request

²⁴I have to caution against strong conclusions. It's quite possible that other measures of inequality might reveal a different dynamic, as they are more sensitive to increases at different parts of the distribution (the Gini index is notoriously sensitive to changes at the middle of the income distribution, and relatively insensitive to changes at the extremes).

6 Aggregate analysis

Before starting with the univariate and multivariate analyses, I will offer a quick justification of why I don't choose to create an omnibus scale out of the three economy-related attitudes I have chosen, and rather prefer to use them one-by-one in my analyses. When examining the correlation between the three economy-related attitudes presented so far, it's surprising how small the correlations are—virtually none of them exceeds 0.35 (see Figure 8, although the same situation is present in the sample of non-OECD countries). Given this limited correlation I have chosen to examine them separately, on the off-chance that income inequality has a different effect for some attitudes than for others.

*** Figure 8 ***

The current section will point to income inequality as a force in driving polarization in attitudes related to the economic system. A quick examination of Table 2 shows that both income inequality and GDP per capita seem to be fairly normally distributed. Party polarization and educational inequality, however, seem to have a pronounced right skewed distribution, owing to a few cases of extreme polarization and rather extreme educational inequality. Not wishing to remove any more cases than absolutely necessary, I applied a log transformation to both variables when using them in the regression analyses.

*** Table 2 ***

6.1 Correlations

Table 3 presents the correlations between the standard deviation of generic Left-Right placement and the measures of income inequality which I've included in my analysis: the Gini index of income inequality, as well as the share of national income which goes to the top 10, 5, 1, 0.5, and 0.1 percent of income earners. If we rely on the Gini index, a direct and positive relationship can be found between income inequality and political polarization. Nations which have a higher Gini index, on average, display higher Left-Right polarization, $r(207)=0.42$, $p<.001$. On the other hand, by using exactly the same measure of polarization, but changing the measure of inequality to the share of national income which goes to the top 10 or 5 percent of income earners, the results point more toward depolarization, with correlation coefficients which are statistically significant at the .05 level. Finally, if I use the share of income which goes to the top 1, 0.5 or 0.1 percent of income earners, no statistically significant relationship appears (although there is some indication that this is also negative).

***** Table 3 *****

The finding is counterintuitive when considering that an increase in the Gini index is associated, on average, with an increase in the income going to the top 10 percent of income earners ($r(53)=0.72$, $p<.001$). Running the correlation on distinct subsamples made up of OECD and non-OECD countries shows that an increase in the Gini index is associated with polarization for both groups of countries—this can't be the explanation for the discrepancy. A similar correlation between polarization and the share of income going to the top 10 percent of income earners could not be run on split samples, as the information for income shares is almost exclusively available for OECD nations. The explanation can be found in the fact that OECD countries have, on average, lower levels of both inequality and attitude polarization than non-OECD countries. Pooling these two groups suggests a positive relationship, whereas examining just the non-OECD group reveals a negative relationship.

With respect to the other three attitudes analyzed here, Table 4 shows that, in most cases, there is a direct and positive relationship between income inequality and the extent of attitude polarization at the aggregate level: countries with a higher level of inequality also display, on average, a higher level of attitude polarization. The results confirm my initial hunch, if taking only the aggregate perspective—rising income inequality appears to be associated with polarization in generic Left-Right placement, as well as polarization in attitudes closely connected to the economic facet of the Left-Right dimension. At the same time, the correlations are small enough to suggest that this univariate analysis is only able to explain a very small share of the actual phenomenon of public opinion change over three decades.

***** Table 4 *****

Moving on to kurtosis, a similar table can be presented, probing the correlations with different indicators of income inequality included in the data (see Table 5). Just as a reminder, a higher value for kurtosis designates a more consensual distribution of attitudes in a particular society at a particular time. What is interesting to note is that with the exception of an individual's attitude regarding governmental responsibility in providing for the basic needs of people, the evidence is mixed: using one indicator of inequality (in particular, the Gini index) suggests polarization, whereas changing the indicator for another suggests depolarization (see the case of kurtosis of Left-Right self-placement and the share of income earned by the top 10 percent income earners in a country). This can be explained through the same phenomenon of pooling OECD and non-OECD countries as before.

***** Table 5 *****

6.2 Multilevel models

The bivariate analyses painted a picture which doesn't bring us much closer to ascertaining whether income inequality truly has an influence on the degree of mass polarization in attitudes related to the economic system. The following pages will discuss a series of multivariate analyses which, I would say, provide us with a clearer conclusion. The analyses represent a series of hierarchical linear models, where the dependent variables are the standard deviations, measures of kurtosis, ICCs, and measures of consolidation (Cronbach's α) for each of the three attitudes presented above, as well as for ideological self-placement. The ICC, in this case, refers to the extent to which variability in attitudes is present between, as opposed to within, income groups.

Before delving into the discussion it's worth mentioning again that for the purpose of the hierarchical linear models presented here both party polarization and educational inequality were transformed by taking their logarithm—this resulted in a normal distribution for both variables. For each of the models, the level 1 units are the country years (elections), and the level 2 units are the countries. Income inequality and polarization were included at the level 1, while democratic stability and educational inequality were included at the level 2, by averaging across elections for every country.²⁵ Due to the restrictions imposed by the small sample size, the effects of income inequality and party polarization were not allowed to vary across the level 2 units. Each multilevel model was run 100 times, with the 100 plausible values for the Gini index supplied in the SWIID; estimates and their standard errors were subsequently pooled, whereas the model fit statistics were simply averaged over the 100 iterations.

*** Table 6 ***

Table 6 presents the estimation results from hierarchical linear models that use indicators for polarization in ideological self-placement. For standard deviation and kurtosis, the evidence unequivocally points toward a consistent negative effect of income inequality, in the direction I expected. Rising income inequality is associated with increased standard deviation of Left–Right self-placement, as well as decreased kurtosis (which means increased dispersion for the attitude). Although for Models (2) and (3) for kurtosis the effect of inequality is not statistically significant, this can be attributed to the low sample size for the models—the direction of the effect is consistent with the other two models. For ICC, however, there is no evidence of an effect for inequality. Other variables in the models (such as party polarization or educational inequality) have no statistically significant or

²⁵The extremely small sample size at the level 1 (2-5 cases for most countries) made it mathematically impossible to include more variables at this level.

consistent effect on measures of polarization. The potential exception is GDP per capita on standard deviation, which has an effect in the expected direction. A more economically developed political system is associated with a lower level of polarization in self-reported ideological placement; economic development certainly brings about a more centrist public opinion, partially free of bitter conflict over the extent of redistribution or the proper way of managing an economy.

***** Table 7 *****

For respondents' attitude toward income equality (see Table 7) the evidence indicates a consistent effect for income inequality. Increases in inequality are associated with an increase in the standard deviation, a decrease in kurtosis, as well as a decrease in the intra-class correlation coefficient. For the latter indicator, a decrease points to increasing heterogeneity in attitudes at the within-group level—this is contrary to the evidence obtained for standard deviation and kurtosis, and goes against my initial expectations. As in the case of the previous models presented here, GDP per capita has a consistent negative effect on the standard deviation of the attitude toward income equality, but no apparent statistically significant positive effect on the kurtosis of the distribution. The intriguing finding to emerge from these two tables, however, concerns the (non)impact of party polarization on attitude polarization. My constructed measure of polarization (based on the RILE index in the CMP dataset) is not statistically significant in any of the models presented so far. Furthermore, the direction is consistently counter-intuitive: increased party polarization appears to be associated with a lower standard deviation of the attitude, a higher kurtosis measure, and a higher level of attitude constraint (as measured with the ICC).

***** Table 8 *****

In terms of attitude toward government ownership of business (see Table 8) the pattern of evidence is similar to that presented in the previous paragraphs. Income inequality has a statistically significant impact on the standard deviation and kurtosis of the distribution, and it is in the expected direction for both. On the other hand, there is only very weak indication that inequality has an impact on ICC, although this time it is in the direction I expected—income inequality leads to increasing differences between income groups. A far more consistent effect is observed for GDP per capita. Even after controlling for income inequality and political polarization, a higher level of economic development is associated, on average, with a more consensual public opinion with respect to government ownership of business. This effect can be observed for all three indicators of polarization, further strengthening my certainty that an effect truly exists in the population, and confirming the results of [Sigelman and Yough \(1978\)](#) with respect to the same indicator.

***** Table 9 *****

Finally, turning to the attitude regarding government responsibility in providing for the basic needs of citizens (Table 9), the direction of effects confirms what was presented in the previous tables, although sometimes the effects are not statistically significant at the .05 level. The most consistent effect of all is, yet again, income inequality—negatively associated with kurtosis, and positively associated with the standard deviation of the distribution. No statistically significant effect of inequality on the ICC of the attitude can be observed in the models presented in the table. The effect of GDP per capita is also more ambiguous: although it has a statistically significant negative effect on the standard deviation of the attitude toward government responsibility, no such effect can be observed for kurtosis. Nevertheless, a statistically significant effect on the ICC can be seen in Table 9, in the direction hypothesized at the outset: a higher level of economic development is associated with a greater degree of consensus in society regarding the extent to which the government should provide for the basic needs of citizens.

***** Table 10 *****

The last feature of polarization under scrutiny is the degree of constraint of the three attitudes examined above. The expectation set forth in the beginning was that with increasing income inequality, there would be a higher degree of constraint. The evidence, however, points in the opposite direction—higher levels of income inequality are associated with a lower degree of constraint. Income inequality appears to be the only variable which has a consistent effect throughout the four models presented in the table. Party polarization's effect on the degree of attitude constraint is in the expected direction, but never achieves statistical significance. As a cross-check on the models tested here, I re-ran all models presented so far with party polarization computed based on an index of the parties' position on the market economy, on a planned economy, and on the welfare state (all measures were present in the CMP dataset). Using these different measures of polarization does not substantially change the results with respect to the impact of income inequality, or that of party polarization.

6.3 Causal cross-checks

So far in my analysis, I have operated under the assumption that income inequality has an exogenous impact on voter shifts in values (the causal path depicted in the first panel of Figure 1). However, an alternative scenario is possible, presented in the second panel of the figure: party polarization can lead to policies which are economically unfavorable to low-income voters, and therefore drive up inequality. At the same time, by transmitting

As an additional check, I tested the same models but with a lagged measurement of the dependent variable, assuming that the effect of party polarization might only be visible in time. Running all models with a 1, 2, or 3-year lag for income inequality did not reveal any impact of party polarization. Neither did running the models with the share of income going to the top 10, 5, 1, 0.5 or 0.1 percent of income earners in a country as an alternative measure of inequality. Even when running the models again with these 5 alternative measures of inequality, each lagged by 1, 2 or 3 years, only one model out of 60 which included party polarization showed a statistically significant effect for polarization. Unfortunately, the effect was in the opposite direction to what would be expected (higher party polarization is associated with lower mass polarization), and was obtained on a sample of 11 countries, and 27 country years. Using an alternative measure of political polarization, based on a party's position on market economy, on the desirability of a planned economy, or on the welfare state, did not show different results with respect to the independent effect of polarization²⁷; simply put, evidence presented here suggests there is none.

7 Discussion

I would like to focus first in this section on the extent to which the findings presented here correspond to what other authors have found in disparate studies. Despite relying on a different sample, [Fiorina and Abrams \(2008\)](#) identify polarization in the United States for exactly the same indicator that I find polarization for. In terms of opinion regarding government responsibility for jobs and standard of living, the authors find that polarization has taken place between 1984 and 2004. I find a similar trend with respect to opinion on the extent to which the government should be responsible for providing for the basic needs of citizens. Secondly, with respect to the limited focus on economy-related attitudes I have here, my findings largely overlap with those of [Bartels \(2013\)](#): over the course of the past three decades, there has largely been a leftward shift with respect to economic values across most OECD and non-OECD countries. This trend, however, is not present in the United States, which has seen its high level of income inequality associated with a turn toward increasing conservatism ([Luttig, 2013](#)).

Turning now to the hypotheses presented in the beginning of the paper, it seems safe to claim that H_1 and H_2 have found clear support in my analysis. Income inequality is associated with a higher standard deviation across all four attitudes investigated here,

²⁷Only one of the models showed a statistically significant negative effect: using polarization along the welfare state sub-dimension, with a lag of 3 years for the Gini measure of inequality (the sample size in this case is more substantial—43 countries and 143 country years).

as well as a lower kurtosis. In terms of H_3 , however, the evidence has been far more inconclusive: at times, income inequality has not had a statistically significant effect. In those few times when this effect has achieved statistical significance, it has been in the direction contrary to what I had expected—it seemed to blur distinctions between income groups. Even when repeating the analysis with η^2 as a dependent variable instead of ICC, the substantive conclusion remains the same. Finally, for the last hypothesis (H_4), the evidence has clearly pointed in the opposite direction than what I had expected: income inequality is associated with reduced attitude constraint when we examine a respondent's attitude toward income equality, toward government ownership of business, and toward government responsibility in providing for the basic needs of citizens.

It seems probable that the reason for inconclusive findings with respect to ICC could be the particularly low variability which this measure displays in my sample. Most ICCs fall somewhere between 0.03 and 0.06, which makes it particularly hard to obtain statistically significant results. At the same time, it could be that changes in intragroup homogeneity and intergroup heterogeneity do occur, but only for the richest and poorest groups in society (see also [Baldassarri & Gelman, 2008](#)). These changes would be obscured by lack of change in other groups, leading to results that don't reach statistical significance. It's much harder to account for the results that suggest that increasing income inequality is associated with a lower level of attitude constraint (H_4). Although the model fit statistics suggest that the model is not particularly solid (the loglikelihood is negative for all 4 models tested), the consistency of the negative effect for income inequality is surprising. I have yet to find a satisfactory explanation for the effect observed.

The analysis has also showed that my assumed causal path (from income inequality to voter shifts in attitudes) has more evidence in its favor than an alternative one (which sees both income inequality and mass attitude polarization as the result of elite polarization). More checks should probably be attempted before offering a hard conclusion on the matter, although existing evidence tilts the balance in favor of an exogenous effect of income inequality on mass polarization. This is in line with existing findings ([Bartels, 2013](#)) according to which value change in voters is not an effect of party system dynamics, but rather has an exogenous cause. This value change, in turn, influences party system dynamics.

A particularly important aspect of the multilevel models on which I did not dwell much in the preceding section is that they include party polarization as an independent variable. Although existing research suggests that individuals are responsive to ideological cues coming from the party system ([G. Evans & Tilley, 2012](#)), this analysis has failed to

identify any effect originating with the party system.²⁸ It is quite true that my measure of party polarization was based on a generic RILE index, rather a finer measure (such as the parties' placement on the issue of planned economy, market economy, or the welfare state). Although such information was available in the Comparative Manifesto Project data, they covered far fewer countries than the RILE index, and would have resulted in even smaller sample sizes. Even if such an index would have been available on a wider scale, it's debatable whether voters perceive shifts on a component of the Left-Right placement of a party (even one as major as the position on a planned economy or the welfare state). What my analysis has been able to show is that even when taking into account the potential cues which parties might target voters with, income inequality still exerts a statistically significant effect on attitude polarization.

8 Conclusions

I grant that the conclusions might seem trivial—income polarization is associated with rising disagreement about income equality and state provision of a minimal safety net for those whose boats have not been floated by the rising tide. Alexis de Tocqueville extensively praised the “equality of conditions” he encountered in American society and the beneficent effects this had on political society. It seems instinctively true that as the fortunes of the poor and wealthy increasingly diverge, there would be commensurate resentment between the two groups, resulting in rising social tensions. These might not reach the point of a class or “culture war” (Baker, 2005), but neither could they be considered harmless. Yet what seems obviously true yet empirically untested can have wide-ranging consequences, as was the case with the assumed sufficient political knowledge of citizens by classic democratic theory. My analysis represents the first attempt to show that attitude polarization could be triggered by rising income inequality, independently of party movements.

The work cannot and should not end here. Even if polarization in attitudes could worsen as income inequality rises, this does not necessarily mean that negative political consequences follow in a deterministic fashion. As (Sani & Sartori, 1983) observed three decades ago, political competition is fought alongside more than one dimension; parties might choose not to under-emphasize the redistributive dimension in their campaign appeals and focus on other dimensions (moral issues, foreign policy, corruption). Perhaps this is the sense commentators have in mind when claiming that the Left has been unable

²⁸A weak point of my analysis is that I haven't been able yet to take into account the possibility of different behavior by parties of the Left and Right (Adams, Haupt, & Stoll, 2009).

to find a credible message for the electorate—it has abandoned its traditional redistributive message and replaced it with nothing that had the same power of convincing voters. The conditions under which this switch to other axes of competition has taken place, and what this has meant for mass attitude or elite polarization should be investigated further. Much work remains to be done in terms of clarifying the results presented here, particularly about the shape of the polarization observed here (leftist voters shifting further to the Left, rightist voters shifting to the Right, both phenomena) as well as in finding ways of transforming the aggregate-level analysis into a micro-macro one (with predictors both at the level of the individual, and the national political system).

A second outcome generated by my analysis has been empirical confirmation for a series of analyses which establish a connection between party polarization and income inequality, and then quietly assume that this is transmitted through the shifting preferences of voters. The path of causality could, however, work in the opposite direction as well. Voters aren't able to perceive anything but the most major shifts in income inequality; parties take notice of smaller shifts in inequality and their patterns of differential responses to this trend polarizes public opinion. The results presented above suggest that the first scenario is more likely true than the second one, as party polarization was shown not to have an independent and statistically significant effect on attitude polarization. There is indication that economic inequality has the potential to be self-reinforcing, as a result of changing preferences for redistribution between different income groups in the electorate (Kelly & Enns, 2010). If this is true, I would argue, it becomes paramount to expend considerable intellectual effort toward discovering what are the institutional parameters that facilitate this vicious cycle, or those that hinder and even reverse it.

I chose to start this paper with a story of sorts, about a country in which political life has been crippled by frequent bickering between political factions. As it turns out, the story's main character (American political life) is a particularly exceptional one if we choose to view her through the lens offered by the evidence I have presented. It does exhibit polarization (as good story characters sometimes do), although not of the kind I have examined (mass attitudes), but just in that thin strata of society which goes by the name "political elite". In this sense, it's not one illustrative for the particularly strong connection between income inequality and mass attitude polarization; quite the contrary. Why choose it, then? Possibly because I believe it is particularly this "exceptionalism" that is most fertile in producing puzzles, and driving social research further. For, at the end of my analysis, I am left with the question of why do the United States not exhibit mass polarization driven by income inequality, as a majority of countries (both rich and poor, democratically consolidated and transitioning) present themselves with? The story, I feel, involves a host of factors, chief among which is the way how political parties choose to enter into competition

with each other—whether they emphasize the redistributive dimension of the Left-Right axis, or rather choose to focus on other dimensions (see De La O & Rodden, 2008). It is a story, however, to be told in subsequent attempts.

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